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THE ARCHIVES

OF

GYNÆCOLOGY,

OBSTETRICS AND PÆDIATRICS.

SERIES OF 1886.

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General - Complete

THE ARCHIVES OF
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OBSTETRICS AND PÆDIATRICS.

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ARCHIVES OF

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Series of {
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NEW YORK, FEBRUARY, 1886.

NO. I.

Gynaecology.

1. CORRECTING Uterine Displacements by shortening the Round Ligaments. WILLIAM ALEXANDER, M. D.—The operation is a delicate one, and quite different from nearly all the ordinary operations. It resembles most ligature of arteries or neurotomies, but from both it differs in many essential particulars. In the ligature of an artery the pulsation of the vessel guides us to the spot and assures us that we have reached the structure we seek. In looking for a nerve we have a characteristic white structure to find, and twitching often shows us when we have found it.

The round ligament does not pulsate, and is of a pale flesh color when first seen. It lies embedded in other tissues that by the inexperienced might easily be mistaken for it. Its white sheen only appears when pulled out.

The pubic spine is the first landmark, and can be felt by an intelligent finger under any depth of superincumbent fat. It does not matter very much whether the finger can feel the spine clearly or not, provided the primary incision is made within reasonable distance of it. From this an incision is to be made upwards and outwards in the direction of the inguinal canal for one and a half, two or three inches according to the fatness of the subject. A considerable thickness of subcutaneous fat is now met with, which must be cut through by subsequent incisions until the pearly glistening tendon of the external oblique muscle is reached. Midway through the fatty tissue an aponeurosis sometimes appears so firm and smooth that it may cause the operator to think he is deep enough, and if he begins to poke about here, as I have done and have seen done, it is little wonder no ligaments can there be found. The first stage of the operation consists simply in cutting down upon the tendon of the external oblique muscles until it appears

clear and shining at the bottom of the wound. If the operator succeeded in hitting the spine, the external inguinal canal, with the inter-columnar fibres crossing it, can also be seen. If not, the aperture now made down to the muscles can be dragged over an extensive area by retractors, so that the region can be searched until the ring is found. The finger, passed to the bottom of the wound, may be used to detect the spine and the ring outside; the former by its hardness, and the latter by its lessened resistance compared with that of the aponeurosis around it. The anatomical knowledge of the operator should always be equal to the recognition of these structures, that is the spine and the external abdominal ring. There are other apertures, as the aponeurosis and a depression filled with fat below Poupart's ligament, that sometimes simulate the external ring. Poupart's ligament below, the intercolumnar fascia running across, and the spine at the inner side are sufficient landmarks. When in doubt, a slow deliberate survey of the position should be taken, and no gropings in the dark made, as these are certain to lead to failure.

Having clearly isolated the external abdominal wound, and tied or compressed any little vessels necessary to be attended to, the next step in the operation may be entered upon, viz: to find the end of the ligament. The intercolumnar fascia, which is generally pushed forwards by the fat and other structures beneath, is to be cut through over all the extent of the external ring and in the direction of its longest diameter: a nerve, some vessels, fat, some tendinous bands, and the round ligament spring out of the canal immediately. In fat people the quantity of fat conceals all the other structures. No "grabbing" at the mass is now to be practised, as some have recommended. By everting all the structures upwards the round ligament can be seen generally at the lowest part, and with the white easily distinguished genital branch of the genito-crural nerve along its anterior surface and close to it. The ligament at this stage is more or less rounded in shape, sometimes rather delicate, but an always easily recognized flesh-colored structure that might be easily destroyed by forceps rudely and blindly applied. Should the ligament seem very frail, or the operator be doubtful whether he has found it or not, he should take care not to displace the structures, or to destroy them by searching or pulling. His best plan in such a case is to open up the inguinal canal a little, and then re-examine what he supposes to be the ligament. No difficulty in finding the ligament need thus ever be experienced, provided the operator knows what he is about: when the ligament is clearly identified the small nerve on its surface is to be cut through without cutting any of the ligament. Then gentle traction is to be made either by the fingers or by broad blunt-pointed forceps. Care must be taken not to break the ligament by such traction. Bands will now be seen holding it to the neighboring structures. These should be cut through with scis-

sors, the greatest caution being used to avoid notching the ligament itself at the same time. With a little patience and perseverance the structure is so far free that all resistance is at an end, and it comes out as easily as if broken inside.

As soon as it begins to "peel" out, and without drawing it out farther, I leave that side after covering the wound with a clean sponge and operate on the opposite side. To do so my assistant and I change sides, so that I always stand on the side opposite to that on which I am operating. I can look thus better into the canal and draw the ligament more conveniently towards me, but of course the operation could be performed without this change of position.

The third stage consists in placing the uterus in position by the sound, and pulling out the ligaments until they are felt to control that position. The replacing of the uterus is first performed, and is held in position by a third assistant. The operator pulls out both ligaments almost simultaneously and gently until the sound is felt to be slightly moved. He then hands both to the first assistant to hold while with a curved needle threaded with moderately fine catgut he stitches each to both pillars of the ring by two sutures on each side, and thus secures the closure of the external abdominal ring and the fixation of the ligament without injuriously strangling the latter structure as it lies between. The assistant can now let go, the chafed ends of the ligaments are cut off, and the remainder stitched into the wound by means of the sutures that close the incision. A fine drainage tube is inserted, and the wound washed out with carbolic or other lotion before these sutures are tied. The conditions under which the operation is performed and the dressing now to be applied may vary with the bias of the operator. In hospital I perform the operation under the spray and use the gauze dressings; in private I dispense with the spray, and sometimes use boracic lint or absorbent cotton wool. I always drain, as I believe it to be much safer, preventing any collection of pus or danger of interfascial suppuration. It may retard, in some cases, the healing of the wound, but as I never allow my patients out of bed under three weeks, this is not of much importance.

Before the dressing is applied in simple cases of retroversion and a prolapse, I insert a Hodge's pessary and keep it in at least during the convalescence. When there is retroflexion as well, I always insert a galvanic stem to keep the uterus straight during the healing of the wound. By keeping the uterus straight the fundus either shrinks or the ligaments let go their new attachments, and resume the old. At any rate, by keeping the stem in for a month or so the cure may be with certainty effected. The time the stem must be kept in must depend on the obstinacy of the case. My object has always been to cure the patient rather than to test certain points, but I have taken it out at the end of a

month and had to resume it owing to a recoil for another month. In most cases a month has been quite sufficient. Besides, a stem and Hodge that could not be retained before operation without constant displacement or distress, can always be worn indefinitely after operation without any knowledge that such instruments are inside. Some of my patients have been surprised when I removed these instruments, as from their previous experience they were sure none could be retained by them without their knowledge.

An important question with regard to the third stage of the operation is, How far are the ligaments to be pulled out? My reply is, To put the uterus in position and pull out the slack. After the ligaments have been freed they come out readily for a certain distance, and then decided resistance is felt accompanied by movement of the replaced uterus. Any further traction pulls up the broad ligaments and the uterus, and finally is met by the resistance of the opposite ligament till the uterus is elevated to the abdominal wall. Now this lifting of the uterus is an unnatural procedure. That organ never hangs suspended under any normal conditions, and to suspend it by the ligaments must lead to failure. All we can do is to replace the uterus in its normal position, and this occurs generally when the decided check upon the pulling out of the ligaments takes place. Sometimes, but rarely, a false check occurs, but this can only be known by experience, and by care and caution can be overcome. Again, if the uterus is placed in too upright a position by excessive traction on the round ligaments these will probably gradually yield or fail to unite properly, and slight anteversion may occur. In some of my cases I have noticed a tendency to this, but it has never yet given any trouble.

The after-treatment of the operation consists in rest. The wound I generally dress on the second day, when I remove the tubes, the small aperture left where they were removed being sufficient to maintain the necessary drain in most cases. The ligaments should be allowed time to unite to the wound, to the pillars of the ring, to the canal; and for this purpose three weeks is quite short enough time. Several of my private patients have taken a longer rest, and with benefit, as thus all the pelvic organs have become accustomed to their new position. The rest need not be in bed—a sofa and the sitting posture may vary the monotony of lying in bed, whilst sewing, reading, and other feminine arts may be indulged in after the first few days.—*British Gynaecological Journal*.

2. TREATMENT of Peritonitis. PROF. NOTHNAGEL, Vienna. (*Med. Press*).—As we have to do with an essential peritonitis, and not with an infectious disease, as is evident from the atypical febrile course, etc., we must treat the inflammation. Of antiphlogistic remedies we first of all make use of local blood-letting. It is the

best that you can do in suitable cases and in suitable individuals. All the patients assert in concert that they get extraordinary relief by it. I can speak of it myself. In a pleurisy that I had I know how magically the leeches and wet cupping relieved the pains—before, I could scarcely breathe, and after, respiration was tolerably free. I repeat, however, that you must act with circumspection in your local abstraction of blood—6 to 7 leeches at once—accommodate it to the strength of the patient and to the kind and intensity of the inflammation. As a second means, proceeding on the same principles, apply cold, the ice-bag, Leiter's pouch, etc. These are the two antiphlogistic means, cold and abstraction of blood. What else? According to the majority of observers, nothing is to be expected from mercurial treatment. Mercurial treatment, mercurialization, calomel internally, and gray ointment externally can be made use of at most in those cases that run a foudroyante course, and they were recommended by very good observers in puerperal peritonitis. One of our best gynæcologists, now unfortunately departed—Spiegelberg—relied a great deal on mercurialization in puerperal fever, as did Traube also, who treated puerperal peritonitis to the last by mercurialization. In the other forms of the disease you do not need to mercurialize. The question arises whether you should make use of any thing against the constipation. To this I answer, no. Let the bowels keep at rest through a long period. You must clearly understand that irritation takes place on exciting peristalsis, the folds of intestine move, the peritoneum is irritated, and so long as violent inflammation exists irritation must be avoided. It is somewhat different when the pains are ceasing, when the acme of the process is passed. Then you will best provide for the action of the bowels by internal means, calomel in a dose of 5 to 7 grains, two such doses, or what is better still, you avoid internal therapeutics and give the patient an enema. I must remark that in the course of the peritonitis a period arrives in which you not only may, but must provide for evacuation of the bowels, that is, when the acute symptoms have passed away. When the inflammatory process has subsided in pleurisy, and the exudation has to be resorbed, one of the most important objects to be attained is gymnastic exercise of the lungs. You must cause the patient to inspire deeply, in order to avoid as much as possible the formation of adhesions. From this point of view, you must also, in the later stage of peritonitis, when the acute symptoms have passed away, seek to avoid adhesions of the peritoneum by exciting peristalsis; when there is exudation you must provide for operation of the bowels by giving purgatives or enemata. In the later stage, when the inflammatory symptoms have disappeared, you must seek to favor the absorption of the exudation by so-called counter-irritation. Much as blisters are preferred for the thorax and heart, they are not well borne on the abdomen, on account of the great

surface involved. One rather prefers tinct. iodi or tinct. iodi and tinct. gallarum in equal parts, or other substances are rubbed in that are thought to favor absorption. A favorite remedy is green soap, with oil of lavender, or some other ethereal oil rubbed in twice a day. It causes irritation of the skin, and is supposed to facilitate absorption. Mercurial ointment does not facilitate absorption. Then, but in a later stage, you may favor absorption by moist applications—by warm moist applications—not by Priessnitz applications (which are put on cold and kept on till they become warm), or you may combine these with a gentle cutaneous irritation by the use of warm salt water or borax fomentations. Finally, you make use of a suitable kind of nourishment for the patient.

3. *FOREIGN Bodies left in the Abdomen after Laparotomy.*

DR. H. P. C. WILSON.—A married woman, aged 29, five months pregnant, underwent ovariectomy at St. Vincent's Hospital, Baltimore, on Feb. 20, 1883. Dr. Wilson removed a large dermoid tumor of the right ovary. On March 9, after severe abdominal pains lasting for several days, she miscarried. An abscess formed close to the umbilicus and broke on March 23, in the upper angle of the abdominal wound. A fistulous opening formed and closed. On April 16 she returned to her home in the Alleghenies. Dr. Hocking, her own practitioner, found that one inch and a quarter above the umbilicus, directly in the median line, extending about three inches from side to side, and one inch from above downwards, the abdominal wall was thickened and indurated, forming a tumor-like mass, resonant on percussion. The mass soon became softer, and broke on May 14, discharging a great quantity of dark, offensive pus. The abscess-cavity was syringed out with antiseptic solutions daily, till on July 15 a dark-colored object, "about half the size of a silver three-cent piece, was observed to float out with the contents of the syringe. It proved to be a piece of sponge. The opening was enlarged, and another piece was removed with a pair of dissecting forceps. This produced free bleeding, and the remainder of the sponge was taken away piecemeal, till August 7, when the last vestige was removed. The patient made a rapid recovery." Dr. Wilson has collected twenty-one cases of foreign bodies left in the abdomen after laparotomy; six of these occurred in America, none of which, except Dr. Wilson's have been published. In five of these it was a sponge that had been overlooked, one of these cases being fatal; the sponge was not discovered until the necropsy. In two of the five the sponge was remembered when the abdominal wound was being closed, an assistant in both cases pointing out the oversight; in one the wound was reopened shortly after the operation; the fourth non-fatal case was Dr. Wilson's. In one of the entire six American cases, a *post mortem* examination disclosed a pair of

forceps. Ten out of the fifteen British and European cases have been unpublished, but are noted by Mr. Lawson Tait, in whose practice occurred an eleventh, where a sponge was torn in halves and thus caused a false reckoning at the end of the operation. The result was fatal. In the remaining four, where Sir Spencer Wells, Carl Braun, and Gustav Braun were the operators, forceps were left behind in two, and a sponge in each of the other two; the Dr. Brauns cases were both fatal.—*American Gynecological Society.*

4. *HYSTERECTOMY in Cancer of the Uterus.*—In his inaugural dissertation, Saure, the author, gives the following conclusions as the result of the study of a large number of cases: Hysterectomy is a legitimate operation in many cases of cancer of the uterus, and when the disease recurs it is generally less painful than the primary tumor. Colpohysterectomy is the best method; and laparotomy should never be performed unless the tumor be too large to be extracted through the vaginal incision. No operation ought to be undertaken when the cachexy is marked, or when there is reason to think that the circumuterine tissues are involved.—*Thèse de Paris.*

5. *HYDRASTIS Canadensis in Uterine Hæmorrhage.* DR. NIKOLAI A. JIVOPISTZEFF, house-physician in the gynecological wards of the Emperor Paul's Hospital, in Moscow, states his experience of the therapeutic effects of fluid extract of hydrastis Canadensis, which he has administered in over twenty cases of uterine hæmorrhage of various descriptions (menorrhagia, flooding from uterine atony, fibroids, cervical cancer, etc.), that "the best results from hydrastis were obtained in cases of chronic and sub-acute hæmorrhage depending on an inflammatory condition of the uterine tissues and surrounding pelvic organs," as well as on displacements of the womb. "In other words, successful results from the use of hydrastis may be expected only in cases where the uterus is firm, enlarged, tender; where its mucous membrane is inflamed, softened or even ulcerated; or where there is some exudation around the womb. In all other cases, success is more or less doubtful. Thus, in cases of uterine fibroids and cervical cancer, the hydrastis treatment utterly failed to control bleeding. Dr. Jivopistzeff confirms the statement that hydrastis produces a favorable influence on dyspepsia, which often accompanies diseases of the female sexual sphere. Under the treatment, digestion improves, gastric pain and tenderness disappear." The medicine was given in twenty minim doses four times a day.—*Meditz Ob-
ezrenie.*

6. *EXPLORATIVE Laparotomy.*—The subject of laparotomy for diagnosis was very tersely put by Mr. Lawson Tait during his

recent visit to this country, when on being asked for an opinion regarding the nature of an obscure abdominal tumor, he said "Cut the patient open and find out." And it is interesting to know that that patient was cut open, and saved by hysterectomy from almost certain death. Surgeons are beginning to understand that laparotomy is not such a dreadful operation after all. That it is a capital operation must be admitted, but so are many others that no surgeon hesitates to perform. The idea is rapidly becoming a thing of the past that the peritoneum is a structure which must not be touched.

In his address as chairman of the Surgical Committee of the Medical Society of the county of Kings, delivered in October, 1885, Dr. George R Fowler, speaking of the work done by Mr. Tait and Mr. Treves, says: "But there is yet room for missionary work before men, and good men too, can be induced to come out of their shell of conservatism, so-called and with a bold front help to break down the prejudices and misgiving [based upon an ill-founded fear of the peritoneum and its behavior under the knife."

Dr. Fowler divides the cases calling for explorative laparotomy into four classes: 1. Cases in which a diagnosis cannot be made without opening the abdomen and exposing the parts to the direct touch, or even to the sight, of the surgeon, but in which further interference is thereby shown to be impracticable or uncalled for.

2. Cases in which a provisional diagnosis only can be made, unaided by abdominal incision, and in which but slight additional risk is incurred by an immediate and radically curative procedure, based upon the knowledge thus gained. 3. Cases in which a diagnosis has been made, but in which doubt exists as to the practicability of performing a radical operation; and cases in which the choice of the particular operation best adapted to the individual case must be decided upon after incision and exploration. 4. Cases in which the patient's life is in imminent peril, and in which it becomes imperatively necessary to at once locate the lesion threatening life, and to be prepared to act promptly upon the knowledge gained by opening the abdominal cavity.

The cases included under the *first* class are, those in which an operation would be impracticable or is uncalled for. It is well known that there are many cases of severe pelvic or abdominal pain in which a diagnosis is impossible without an operation, though the symptoms give a strong suspicion of chronic ovaritis or salpingitis. In some cases nothing can be found by an operation to account for the pain and other symptoms, and yet they disappear promptly after the operation. In cases under the *second* class a partial diagnosis has been made; sufficient with the symptoms to show that the patient's life is in danger and that something must be done. "As illustrative of this class of cases, chronic ovaritis, or salpingitis, with or without hydro or pyosal-

pinx, may be cited. In some of these cases, although attended with considerable difficulty in making a positive diagnosis, yet the suspicion amounts almost to a certainty. Here an opening sufficiently large to admit the introduction of the index finger will clear up the doubt."

In the *third* division Dr. Fowler places cases in which a diagnosis has been made, but some doubt still exists as to the practicability of performing a radical operation. In this sense he thinks that most cases of ovariectomy and hysterectomy may perhaps be looked upon as being, in some degree, explorative operations; as easily seen by the number of cases in which an operation has been commenced, but abandoned on account of the high improbability of success. Hence the wisdom of always making, as our author advises, the incision as if for simple explorative purposes; when, if the operation be found impracticable, the wound to be healed is not so large. Cases of uterine fibroma of small or medium size, which, because of exhausting hæmorrhage, demand interference, will require a preliminary explorative operation before a choice can be made between simple removal of the appendages or a hysterectomy." Of course in the greater number of cases removal of the appendages is sufficient and perfectly practicable, but now and then a case is met with in which the only choice is between the more formidable operation and closure of the incision without completing the operation.

The *fourth* and last class includes those cases, as we have seen, in which the patient's life is in imminent peril, and something must be done at once both to locate the lesion and to apply means for its relief. And strange to say, this is the class in which the so-called conservatism is most frequently shown. Illustrative cases of this class are those of rupture of an extra uterine pregnancy, of rupture of the pregnant uterus, with escape of the foetus into the abdominal cavity, as reported by Plenio, in a recent number of the *Centralblatt für Gynäkologie*, in which the patient's life was saved. The successes of Bull and Hamilton with gunshot wounds of the intestines are alone sufficient to warrant an explorative laparotomy when such cases occur, and in regard to operating for ruptured extra-uterine pregnancy we need only refer to the successes of Mr. Tait.—*Journal of Am. Med. Ass.*—*Ed.*

7. LAPARATORY and Peritonitis.—It may be asked whether commencing or existing peritonitis contraindicates laparotomy. Fortunately the successes and experiences of Schramm, Bouilly, Israel, Litten, Keith, Wells, and others have already given a negative answer to this question. Peritonitis occurs but rarely after operations compared with its frequency after accidents, and it has several times been shown that it rapidly subsides, when due to traumatism, after an operation has been performed, the abdomen washed out and drainage established. As regards the operation itself Miku-

licz says, in *Sammlung klinischer Vorträge*, No. 262, that it is a secondary question to that of diagnosis ; that is to say, he does not now hesitate to perform laparotomy in cases in which the symptoms point to an early death as he did a few years ago. Consequently, as these cases may imperatively demand an operation, the easiest and surest way to get out of the difficulty is to make an explorative laparotomy. This establishes the diagnosis, and if an operation be demanded the first steps have already been taken. The risk to the patients is very much less when the operation is performed before a local peritonitis has become general.—*Journal of Am. Med. Ass.*—Ed.

8.—*CONCEPTION After Curetting of the Uterus.*—It has been made an objection to curetting of the uterus, that thereby, conception is rendered difficult, if not impossible (B. Schultze). Düvelius has reported sixty cases where, after curetting, conception did ensue, yet in the discussion of his paper, no others were familiar with similar cases. Benicke has, therefore, carefully gone over his records, and is able to report ten cases where conception followed on curetting. In three of the cases, the operation was repeated, so that altogether, it was performed thirteen times. In two cases conception ensued four or five weeks, respectively, after curetting ; and in others, two and a half, three, four and a half, up to seventeen months after. Benicke's conclusion is that the fear lest curetting should interfere with further conception is absolutely groundless ; indeed, that in many cases, it is an excellent method of preparing the endometrium for a new conception.—*Boston Medical and Surgical Journal*.

9.—*NEW Treatment of Peri-Uterine Hæmatocele by Negative Galvano-Puncture.*—At the meeting of the Association Française pour l'Avancement des Sciences, held August 1, 1885, MM. Apostoli and Doléris presented a paper, read by the former, upon the electrical treatment of the uterine hæmatocele by galvano-puncture. In an abstract of the paper forward by the authors, their views are expressed as follows :

The action of the galvanic current is contemporaneously favorable with its application, the diffuent and non-retractile, soft eschar of the negative pole being utilized, and its effect being limited to the point of puncture made by the trocar. This method of puncture, therefore, primarily permits the opening without danger of a morbid collection, more or less deeply located, and places it, on the fall of the eschar, in communication with the external, which, when it occurs, forms a fistula which is more or less permanent, contracting adhesions with the pathological cavity and the exterior (the skin or mucous membrane).

The first action, which is limited and localized as desired, varies with the strength and duration of the current used. The pro-

duction of an artificial fistula has the double advantage of permitting, in the first place, the natural elimination of the contents of the sac and of opening a passage of variable calibre through which topical and antiseptic treatment may be applied. It may also be added that the cicatrices left by the negative eschars are nonretractile, and only slightly visible.

In addition to the first action, which is entirely surgical, a second and medical action results, entirely dynamic and trophic, and destined to modify the nutrition of the pathological collection (abscesses, cysts, etc.), and to produce a process of retrogression more or less rapid.

The general application of the continued current is tributary to this entirely medical application: when it is intended to cure muscular hypertrophy, to abort a commencing inflammation, to resolve a ganglionic hyperplasia, to produce the regression of a fibrous tumor, or one of the connective tissue, etc. In every case, though apparently different, the idea of intervention is identical; the current, the vehicle of chemical, mechanical, and dynamic action, will advantageously influence the nervous system, which regulates all nutritive changes, accomplishing this probably by multiplying the normal electrical currents which accompany all organic movement.

Under this conception, MM. Doléris and Apostoli introduced the electrical treatment of peri-uterine hæmatocele, and consider that this first step in therapeutic gynæcology will soon be followed by others, and that perimetritis and chronic inflammation will be found amenable to the same treatment.

The following is a summary of the method to be pursued in the application of the current:

1. *Nature of the Intervention.*—This is ordinary puncture, followed by the *chemical galvano-caustic* action, which should always be *negative*.

The effects of the basic, non-retractile eschar should be utilized, which, subsequent to a variable loss of substance incident thereto, will produce a fistula which will be maintained for several days.

2. *The Location of the Puncture.*—This should be, as far as possible, in the centre of the tumor, and the loss of substance be here produced, care being taken at the same time to avoid the uterus, the intestine, or any great vessel. Combined rectal and vaginal touch will reveal the situation of the respective organs, and the arterial pulsation will render apparent the seat of any great vessel which it is necessary to avoid.

3. *The Dose of the Operation.*—This should be as great as possible, the resulting fistula and eschar being directly proportionate to it. The ability to employ 100 milliampères is necessary and easily accomplished, in as much as the other pole (the positive in practice) is converted into an entirely negative pole, by the

employment of potter's clay, which is soft and plastic, spread upon the surface of the electrode.

4. *The Duration of the Operation.*—This, like the dose or its intensity, should be regulated according to the loss of substance and the ulterior dynamic effect it is desired to produce; from five to six minutes will generally be a sufficiently long time for its application.

5. *The time of Operation.*—This should be as early as possible, and every uterine hæmatocele as soon as diognosticated should be punctured without delay, which in every case renders the prognosis more serious.

6. *The Number of Operations.*—A single galvano-puncture will generally suffice to obtain the desired therapeutic effect and the production of a sufficient fistula. If, by chance, the opening close too soon and the destruction of the sac is not complete, a second application of the current is permissible.

7. *The Technique of the Operation.*—The details of the operation which should be sedulously observed, are the following: Any pile which will produce a sufficiently intense current, which should be estimated by a perfect galvanometer, is suitable for the operation. The Léclanché pile is the best of medico-electrical cells. The trocar should be of moderate size and should penetrate to a depth of from 2·5 to 4·5 of an inch. The indifferent pole should be a large cake of potter's clay placed upon the abdomen or thigh of the patient. The vagina should be protected by a glass or caoutchouc muff surrounding the trocar almost to its point.

8. *Steps Consecutive to the Operation.*—Strict antisepsis should be practised during the operation. The trocar should be heated preparatory and subsequent to the operation, and strong carbolic injections should be made twice daily into the sac, preceded by cleansing and sponging if possible.

9. *Complications.*—Puncture interfering with a great vessel may give rise to a serious hæmorrhage, which should be controlled as rapidly as possible by the immediate introduction of, and forced dilatation with Gemrig's speculum, maintained in position for a considerable time.

The authors of this valuable paper finally conclude:

1. That in this certain and safe method of treatment of uterine hæmatocele, the ordinary gravity of prognosis is much diminished, and a more rapid cure obtained.

2. That generally the tubular cauterization of Tripier (*térébra-tion galvano-caustique*) has a twofold action, surgical and medical, as before explained.—*Phila. Med. News.*

10. *HOW Medical Men Ought To Cleanse Their Hands.*—PROF. E. FORSTER, Director of the Hygienic Institution of the University of Amsterdam, reports that whilst engaged in numerous and diversified investigations, carried on by himself and

under his direction, by some students of the above-named institution, especially in his bacteriological experiments, he found with convincing evidence that the usual methods and means of cleansing are insufficient for perfectly freeing the hands from adherent schizomycetes (bacteria). This has been proved by the following experiments.

The hands, after having been thoroughly cleansed by means of perfectly clean brushes in soap and water, and washed in pure solutions of carbolic and boracic acid, chloride of zinc, sesquichloride of iron, etc., of varying degrees of concentration, were wrapped—in order to protect them against further infection by dust or contact with other objects—in cotton-wool or napkins which had previously been exposed to a temperature of 120° – 140° C. (248° – 285° F.), as apparently clean towels, which had not been submitted to such high degrees of heat, were invariably found infected by saprophytic fungi.) After this, one finger was introduced into a sterilized neutral or weakly alkaline peptonized meat-infusion, or into Koch's nutritive gelatine. In these, in every instance without exception, various kinds of schizomycetes appeared after twenty-four to sixty hours, the growth of which could be perceived by their microscopic behavior and by microscopic examination. It was especially proved that the method of cleansing usually employed by medical men with a $2\frac{1}{2}$ per cent. solution of carbolic acid, or (on Billroth's recommendation) by hydrochloric acid and 10 per cent. of carbolic acid in glycerine, was inadequate for sterilizing the hands. This, however, has been successfully accomplished by the lately more commonly adopted washing with a solution of half a gramme to a gramme ($\frac{7}{16}$ to 15 grains) of sublimate in 1,000 grammes (35 ounces) of distilled water, after a previous thorough cleansing of the hands with soap and water. In this manner, the hands were so efficiently freed from the fungi which are apt to rapidly develop in peptonized meat-infusions, that the fingers could be safely introduced into, and left in the most sensitive media, without giving rise to any demonstrable growth of fungi. The sensitiveness of the media employed was tested after every experiment.

On the evidence of these experiments, Professor Forster feels justified in advising that in every case in which a thorough disinfection of the hands is aimed at, ablution with solution of carbolic acid should be superseded by washing with solution of sublimate, after a preceding careful mechanical cleansing.—*Der Fortschritt*.

11. GLYCOSURIA DR. G. DE G. GRIFFITH.—Mrs. H., æt. 46, married 27 years. *History*.—Healthy as a child, but when 10 years of age suffered from inflammation of the eyes, which, however, subsided when the catamenia appeared about two years

after. Has had one child, and no miscarriages. Last catamenia when 45 years of age.

Symptoms.—Dating from the spring of this year—(1) Intense irritation of the vulva. (2) Tenderness about sacrum and iliac region. (3) Great languor and depression. (4) Coryza and headache. (5) Sleeplessness at night. Bowels irregular as a rule.

Examination.—Vulva greatly inflamed, having a peculiar tough and leathery appearance and feel. Mucous membrane dry and glazed, and whitish, as if the parts had been sugar-castored with white sugar; the membrane in some places being also denuded, with an appearance of ulceration. This was no doubt due to the rubbing of the parts to relieve the intolerable itching. Vagina also greatly inflamed; the mucous membrane presenting the same dry glazed appearance, as also did the os and cervix altogether resembling eczema in the dry stage. *Urine.*—Specific gravity—diabetic on admission. Reaction, acid—on employing the test by liq. potassæ, large quantities of glucose sugar precipitated; the amount passed equal to, or rather less than, the amount of fluid taken.

Treatment.—(1) Scarificator freely used, once and sometimes twice a week. (2) Aconite tampon inserted in vagina. (3) Dressing soaked in aconite or lot. plumbi kept constantly applied between labia. (4) Vaginal injections of hot water once or twice daily, as hot as could be borne; and enemata of the same to keep the bowels regular. (5) Liq. kali and pot. brom. in rather large doses were the drugs principally administered. After being in the hospital a month discharged to attend as out-patient, so as to keep down all the symptoms. Urine constantly tested; and before she left it had fallen to sp. g. 1020; and no trace of glucose sugar was to be seen.

This is the third out of four cases which have come to the Hospital, that has been first greatly relieved and subsequently cured by the line of treatment published. The case which died came in the last stage of diabetes, and would not faithfully carry on the treatment. In all the patients there was genital, as well as urinary, distress, and this has been relieved by scarifying os and cervix freely from time to time, while at the same time administering liq. kali and brom. potass, in large doses and for some time. In the former published case he adverted to the co-existence and co-relations of the vulvo-vaginal irritation and the presence of sugar. "Pruritus vulvæ has been noticed in connection with glycosuria. Perhaps the term pruritus genitalis is more applicable, inasmuch as in a number of cases not alone is the vulval region hyperæsthetic, but the urethra, bladder, vagina, and uterus, and in some instances the entire pelvic organs, especially when the affection occurs before the menopause.—*Med. Press.*

12. MYOMA of the Uterus.—DR. BURTON gives the particulars of a case in which the appendages were removed. The patient was a widow, æt. 33. She had been suffering for about two years when she was first brought to him by Dr. Hugh Williams. She had suffered very much from hæmorrhage, was very anæmic, and was troubled with breathlessness and palpitation. She was admitted into the Hospital for Women, and on March 25 the appendages were removed. The tumor was then the size of a small cocoa-nut, very red and soft. The patient made a rather tedious recovery. For several months the menses continued regular, and were very profuse, and the tumor increased rapidly in size, so that in July it reached nearly to the umbilicus, and probably weighed three or four pounds. Menstruation then ceased for ten weeks, and on examining the patient three weeks ago, the speaker was much surprised to find a great improvement. The patient had gained flesh and color, and the tumor had diminished so much in size that it could only be felt on bi-manual examination, and probably did not weigh more than eight ounces. He was afraid there was an impression abroad that the diminution in size in tumors after removal of appendages was small, and corresponded to what would take place from drainage after removal. His principal object in bringing the case forward was to show that such an impression was erroneous, and that a real disappearance of myomatous tissue took place on removal of the uterine appendages.

Dr. IMLACH thought the case narrated was a fair illustration of what took place in myomata on removal of appendages. The menses continued for a time, then became irregular and finally ceased, with great diminution in the size of the tumor. He doubted whether the tumor ever entirely disappeared.—*Ibid.*

13. COCAINE in the Treatment of Inflamed Nipples.—The limits of usefulness of *cocaine* do not seem to have been reached. The sphere of its therapeutic activity is, on the contrary constantly increasing. One of the peculiar features of the remedy is the promptness and constancy of its action. Its latest employment is that advanced by Unna in the treatment of inflamed nipples, in which affection he holds it has no rival in marvelously removing both pain and soreness. Every physician knows how troublesome and difficult it is to cure a fissured nipple if a baby is nursing it. To afford prompt relief, even while the child nurses, has not hitherto been accomplished. *Cocaine* is said to have succeeded in all cases tried by Unna and others. The nipple is to be brushed every ten minutes, in the intervals of nursing, by a weak solution (one-half to one per cent.) of *hydrochlorate of cocaine*. Within one or two days the fissure will have healed completely, and all pain consequently will have completely disappeared. The bitter taste of the drug does not prevent the child

from nursing, nor is there any danger of its absorption and consequently untoward effects on the child. It would even possibly benefit the child when irritable and restless.—*Eclectic Med. Journal*.

14. SANTONIN in Amenorrhœa and in Dysmenorrhœa.—J. CHERON claims that the action of Santonin upon the vascular system, and its effects upon the muscular fibres, make it especially efficient in the treatment of those forms of amenorrhœa and dysmenorrhœa which are dependent upon adynamia, anæmia and chlorosis, especially when the menses are as yet imperfectly established. The physiological action of santonin tends directly to remove or reduce the passive chronic congestion which determines the amenorrhœa and dysmenorrhœa in adynamic cases; and it not only relieves the utero-ovarian congestion, but also acts as a tonic to the general system. It is recommended to administer it as follows:

℞. Santonini, gr. xxx;
Glycerini, q. s.—M.

Ft. pilulæ no. 40.

S.—Take one or two pills before each meal.—*Revue de Thérapeutique*.

15. PERMANGANATE of Potash in Amenorrhœa.—This drug in grain doses three times a day will be found useful in cases where the flow is too small in amount, or where it is delayed. Ringer states that it has been known to establish the function even after the lapse of two years. Dr. Døring, of Chicago, in a report as to its efficacy, states that to be of use it must be given in considerably larger doses, two or four grains thrice daily midway between meals, but that in such case it deranges the stomach. He also advocates the use of large draughts of mineral water to be taken after the permanganate. Dr. Døring's larger dose should be taken in capsules. Mr. Ringer prescribes it as follows:

℞. Permanganate of Potash, 1 gr.

Kaolin,

Petroleum Cerate of equal parts q. s., ft. pil. 1.

Sig. One three times a day.—*Canada Lancet*.

16. BLACK Mustard Seed in Tardy Menstruation. DR. J. L. POWERS.—Black mustard seed (unground), in dessert spoonful doses, taken in milk at bed time, has been a favorite prescription of mine for the last fifteen years for tardy appearing or suppressed menstruation in young girls, other conditions being favorable except nature's apparent inability to unlock the "hidden casket." The use of the remedy, as suggested, for a few nights, the much desired show will appear.—*Med. World*.

17. COCAINE in the Treatment of Vaginismus. Dr. J. SCHRANK.—Vaginismus may be regarded as the analogue of anal fissure, both in its symptoms and in its mode of causation. The condition is usually associated with a narrow vagina and tough hymen, the rupture of which latter, during introitus vaginæ, extends further than is needful. After producing local anæsthesia by the application of a four per cent. solution of cocaine, he dilates the vagina with a rectal speculum, thereby preventing cicatricial contraction of the lacerated parts, with resultant disappearance of the vaginismus.—*Deutsche med. Wochenschr.*

18. CINNAMON in Menorrhagia or Metrorrhagia.—Cinnamon has long been used as a stomach corrective, and as a stimulating adjuvant to the administration of iron and digitalis in chlorosis, anæmia and heart disease. It has also been occasionally employed in uterine hæmorrhages; but sufficient attention has not hitherto been paid to its properties in that direction. Drachm or two-drachm doses of the tincture produce a feeling of well-being and comfort in the stomach and an increase of force in the pulse, without acceleration of the movements of the heart. If this dose be much augmented, the agreeable warmth in the stomach is succeeded by an intense burning, with general nervous excitement, elevation of temperature, rapid pulse, diminution of urine, and sometimes profuse sweats. In the menorrhagias of chlorotic patients, and the metrorrhagias of lymphatic and debilitated women, cinnamon will often prove curative, when other means have failed, especially in cases of long standing. One or two grains of the powdered cinnamon may be taken every hour in these cases, or a drachm or more of the tincture three times a day.—*Medical World.*

19. SURGICAL Treatment of Pruritus Vulvæ. KUSTNER suggests a new method of treatment for pruritis vulvæ with which he has been successful in four cases. He excises the mucous membrane at the seat of trouble, and reunites the borders of the cut surface by means of sutures. Cicatrization is rapid and the pruritus disappears immediately after the operation. According to the author, in the majority of cases, local measures are necessary, and nothing short of resection of the nerve endings in the mucous membrane is capable of affording relief. This resection is accomplished by dissecting away the mucous membrane at the seat of the pruritus.—*Bulletin Général de Thérapeutique.*

20. BRITISH Gynæcological Society. Dr. ARTHUR W. EDIS showed a new needle-holder designed by Mr. A. E. Nevins, for use with Hagedorn's needles in operations for vesico-vaginal fistula. Dr. Edis explained that the advantages claimed for this instrument over Hagedorn's needle-holder were: (1st) That by

substituting a thin round handle for a forceps handle the view into the vagina is less obstructed by the operator's hand, and there is more room left for manipulation.

(2nd) That the needle is more firmly grasped, being held by a screw clamp instead of by a lever mechanism.

(3rd) That the needle having been passed into the tissues is more easily released, that movement being effected in the new instrument by pressing on a button, which is close to the tip of the thumb.

DR. AVELING said: I have had considerable experience with fistulæ, and I have come to the conclusion that the simpler the instruments employed the better. For my part I use a curved needle with stem all in one piece. I think if operators would give their minds to simplifying instruments instead of complicating them it would be more advantageous. It is very easy to complicate and make instruments like that, but as far as I can see—I have not examined it carefully—it will only hold the needle at right angles. Then in some instances, where you require to have the wound stitched longitudinally, it would be impossible to use that instrument. Besides, it is an unnecessary complication, I can assure Fellows from the experience I have had. A simple needle in one piece is all that is necessary in the most difficult cases.

MR. LAWSON TAIT. I should like to confirm Dr. Edis' statement. I can commend the needle-holder as a very clever piece of mechanical ingenuity. What I want to condemn is Hagedorn's needles, which I think are the most barbarous things ever brought before the surgical profession. If there is anything you want to avoid in a needle it is a cutting surface.

Here is a needle two inches long that has a quarter of an inch cutting surface. I would sooner do anything than use a needle like that. I bought a set of these needles, and I have stuck them up against the wall as things to be avoided.

DR. BANTOCK was unable to agree with Mr. Lawson Tait in his condemnation of Hagedorn's needles. Having been the first to use them in this country, and having had considerable experience of them, he was able to express his unqualified approval of them. With regard, however, to the new needle-holder which had been exhibited, his opinion went the other way. It was complicated and difficult to use, and the only thing to recommend it was its extra length, which need not be a peculiarity.

DR. MEADOWS. I should like to say one or two words, as I think the question of instruments is one deserving attention. I quite concur with Dr. Aveling as to the great importance of making our instruments as simple as we can. I have had a large number of fistula cases, and the needle which I most frequently use is the tubular needle. They have a number of notches, by which you can fix them in a handle, and when fixed they are as

firm as if they were one instrument ; and we have a number of them, and they can be used straight and parallel with the instrument or at any angle you like. Being of the tubular kind, when you have inserted your needle for the most difficult part, the application of the ligatures is very easy, and I think the success of the operation is almost absolutely assured. I constantly use these needles, as when you have your needle through, you have your ligature through also.

Another point of very great importance is the use of the sutures with a spiral coil. I believe I am right in saying that the credit of this belongs to Dr. Aveling, and I think it is one of the greatest improvements in the operation of vesico-vaginal fistula. It simplifies the removal of the sutures at the end of the week or fortnight. The difficulty of moving the sutures is sometimes very great, and you are apt to cut the ligatures. By Dr. Aveling's method all that is avoided. You cut the shot off, the coil is removed, and there is no difficulty at all about it.

I would certainly say that the tubular needle is preferable to this or any other needle that I have seen.—*British Gyn. Journal.*

21. UTERINE Hæmostatics.—Uterine hæmorrhage is so frequent an accident, and in so many cases has such serious consequence, immediate or remote, that means for its arrest have been eagerly sought.

Probably the tendency of therapeutics in recent years is to rely less upon the gross elements of materia medica, the things which we can see, handle, weigh, and more upon the subtle forces, such as heat and electricity, which the physician can bring to his command. And this tendency is very clearly shown in the department of obstetrics and diseases of women. The astringents, mineral or vegetable, which were once in such vogue, are now rarely employed for the cure of uterine hæmorrhage.

We may, by certain remedies, such as digitalis, slow the circulation, and thus lessen the flow, but we do not thereby cure. When hæmorrhage results from an altered condition of the blood so that it has lost its plasticity, and thus one hæmorrhage invites another, deep calling unto deep, we may in some of the cases ultimately cure the flow by remedies which improve the condition of the blood, a process, however, which requires weeks for its accomplishment. When the hæmorrhage is consequent upon a toxæmia, as malarial poisoning, medicines addressed directly to that state, such as quinine or arsenic, in most cases prove of marked value.

The tincture of Indian-hemp has been strongly recommended in the hæmorrhage caused by uterine fibroids, and in menorrhagia associated with painful menstruation : it is an uncertain remedy, and when it does do good, probably it is solely from the relief of the pain which acts in causing an increased afflux of blood to the uterus. So too opium may, in like manner, act favorably in

similar cases, yet neither of these remedies is to be regarded as a certain uterine hæmostatic. The alkaline bromides, from their sedative influence upon the ovaries, may have a beneficial influence in some cases of menorrhagia.

A few months ago a distinguished German authority reported very favorable results from the tincture of hydrastin. Kugelman has recently stated that he had succeeded in causing the menopause by hydrastin administered internally, and the local application of iodine.

Hamamelis has received the strong endorsement of Cheron in the October number of the *Revue Médico-Chirurgicale des Maladies des Femmes*. He advises fifteen to sixty drops of a tincture made of equal parts by weight of hamamelis and alcohol, twice a day. He also uses the solid extract, one part to five of glycerine, as an application to the neck of the womb, or the extract with cocoa-butter, as a vaginal suppository. He asserts that this medicine exerts a positive influence upon hæmorrhages and passive congestions, and upon the pain which accompanies these morbid states.

Ergot probably ranks in the professional mind at the head of uterine hæmostatics. It certainly is one of the most valuable remedies both for the obstetrician and the gynæcologist. Without considering the obstetric uses of this agent, we may remark that its value in controlling uterine hæmorrhage bears a direct relation to the development of the uterus; if this organ be of normal size in the unimpregnated condition, the power of ergot is usually slight, whereas if it be much enlarged, as by a fibroid tumor, that condition termed fibrous pregnancy existing, more decided effects from the remedy may be justly expected. We believe, in all cases of uterine hæmorrhage, whether consequent upon a fibroid or not, and when the medicine is continued for a length of time, iron can be usefully combined with it, though there has been a vague notion that iron increases the flow, and, hence, is not to be administered when this is excessive. But in the ergot treatment of uterine fibroids, it frequently happens that a good result is not obtained until the the medicine is administered hypodermically. In hæmorrhage from cancer ergot is useless; and this statement is true, whether the hæmorrhage be caused by active congestion as it is in the early stage of the disease, or whether it result from ulceration, as it does in the further progress of the malady.

Time permits a reference to only one other uterine hæmostatic, to wit, hot water. This is applied by means of a rubber bag to the lumbar vertebra, or by vaginal injections. For the vaginal use of hot water to lessen profuse menstruation the profession is indebted to Trousseau, though its general use in uterine hæmorrhage must be credited to Emmet. Vaginal injections of very hot water constitute one of the most certain means for the arrest of uterine hæmorrhage; in some cases the injection is carried into the uterus. Those who have frequently failed with this means

certainly have not used the water hot enough, or in sufficient quantity, or with the patient in proper position.—*Med. Age.*

22. VAGINAL Injections. DR. W. THORNTON PARKER—The use of the vaginal syringe should be accomplished with as little annoyance to the patient as the simple operation of washing her hands or her face, and when this can be demonstrated then, and not till then, will the bidet find its way for daily use in countless homes, not as a preventative against conception, but as a precaution against disease.

In 1879 I devised a vaginal syringe, made by Tiemann & Co., of New York, which has since been greatly improved, and it is now possible to obtain the best vaginal and rectal syringe, not excepting the excellent English Higginson, from them. This syringe is made entirely of rubber, and the vaginal and rectal tubes are perfectly flexible. There is no terminal orifice, but the sides are perforated with velvet eyes for a distance of nearly two inches from the end. These rubber syringe points do not lacerate the mucous membrane nor produce the injury so often caused by the hard metallic tubes. The bulb and tube are large and afford a copious supply of water. For use in the recumbent position the vaginal douche pan invented by Dr. Baker, or the Reynolds siphon bed-pan manufactured by Otis Clapp & Son, are to be recommended; but the necessity for the use of the bed-pans referred to is only when the patient is too feeble to administer the injections herself.

With the bidet and the syringe which I have already described, a safe and useful vaginal injection can be obtained.¹ The patient can make herself very comfortable on the bidet, and the syringe is so constructed that very little effort is required to empty the bulb, and pour out into the vagina a copious supply of water, estimated as being many times greater than that obtained from any other syringe at present in existence. The dangers of uterine colic and other accidents while using this syringe and the bidet are reduced to the minimum. A thorough washing of the vaginal walls is easily accomplished, and a large bidet allows a much greater supply of water, and is consequently a cleaner apparatus than can be possible from any bed-pan or fountain syringe. It should be used just before stepping into bed. I direct my patients to fill the bidet as full as possible with water from 100° to 110°

¹ The bidet is a triangular stool about sixteen inches high, containing a porcelain basin which can be easily lifted out and cleaned. The stool is peddle-shaped, the broad end for the support of the buttocks, and narrow anteriorly. It can be obtained at many of the house furnishing goods stores. Incidentally it may be well to mention the fact that the bidet is useful for the treatment of rectal diseases of both sexes. For bathing hæmorrhoids or prolapsed ani it is certainly preferable to the pans so generally recommended. A modest prejudice exists against the bidet, many ladies disliking to use one, since it is so well known that French women use them to prevent conception.

F. in temperature, when ready for use. The patient should have the legs covered with warm stockings, the feet encased in warm slippers, and if weak a warm wrapper can be thrown over the shoulders. The injection should be continued for at least ten minutes. The ingredients to be added to the hot water should be carefully mixed with the water before using. After the injection the parts should be well dried with a soft towel, a suppository introduced and a napkin applied immediately upon entering the bed. For the treatment of ordinary leucorrhœa I direct that the hollow vaginal suppositories of Dr. Chas. L. Mitchell, of Philadelphia, and a formula devised by myself, consisting of sulpho-carbolate of zinc, grs. x. and sulphate of morphia gr. ss., be used, or else the suppositories of boro-glyceride. For those of my readers who are not acquainted with boro-glyceride I would quote the following from the *British Medical Journal*: "Boro-glyceride is a body of definite chemical composition ($C_2H_5BO_2$), which forms a definite hydrate with a large quantity of boiling water, and is not, we are informed, decomposed when diluted in the proportion useful in surgery—one part to twenty or thirty parts of water. Such a solution is inodorous, has a slight saltish taste, and is quite unirritating to a wounded surface. Under its use wounds of all kinds do extremely well, and heal fully as rapidly as under carbolio acid dressings, over which boro-glyceride has the advantage that it does not irritate the wound or the surrounding skin, and that it is, so far as is known, entirely innocuous when applied to a wounded surface." Messrs. Theodore Metcalf & Co., of Boston, have at my suggestion made vaginal and rectal suppositories of boro-glyceride in combination with gelatin and pencils of the same for intra-uterine and other uses. These contain twenty-five per cent. of boro-glyceride. The suppositories are of three sizes, Nos. 1, 2 and 3. No. 1, the smallest, is a useful suppository in various rectal disorders, particularly in hæmorrhoids and pruritus ani. They are also useful in the treatment of thread worms. No. 2 is of medium size, for either vagina or rectum, and No. 3 is indicated where a larger amount of boro-glyceride is required in cases of chronic leucorrhœa, vaginitis, or of uterine diseases in general. The largest suppositories should not be used more than three nights in succession, and experience has taught me that the best results are obtained by using them every other night. Boro-glyceride is an excellent application for a lacerated cervix, spread thickly on the diseased surface. It can also be spread on absorbent cotton, and introduced and applied in that manner. The cleanliness and gentleness of this remedy, and the steady improvement resulting from the use of boro-glyceride, will be very satisfactory to both patient and physician.

Dr. Storer considers that four general indications exist for vaginal injections: 1. As a lavement for cleansing purposes. 2. For the purpose of producing a deep-seated effect for relieving

chronic congestions. 3. Where an exosmotic effect is desired, as in the use of saline and other solutions. 4. Where a local effect is desired, corresponding with gargling for the throat, etc. He thinks that vaginal injections are unquestionably too often prescribed, and that physicians are reckless in directing ingredients for vaginal injections that are of the most unsuitable kind, and often productive of lasting injury. Sometimes even dangerous ingredients are used, creating instead of alleviating disease. Such injections are sometimes followed by a more serious disease than they were at first intended to relieve. The same discretion should be used in prescribing vaginal injections that one employs in treating the mucous membrane of the eye or fauces. Every gynecologist must have witnessed the deplorable effects resulting in almost ruined vaginal walls from too severe injections of such substances as alum, tannic acid, etc. With the most ordinary skill on the part of the medical attendant, the syringe which we recommend ought to be a safe one. It is well, however, to remember that serious injury has resulted from neglect to empty the air from the tube before inserting into the vagina. Care should be taken that no air enter the bulb or tube while filling the syringe. By using a bidet this accident is more readily avoided if plenty of water be used, but with an ordinary hand-basin it is of frequent occurrence.

In drawing attention to the dangers from careless vaginal injections, it may be well incidentally to note the recklessness with which some medical men recommend intra-uterine injections. This is the more inexcusable, since so many general practitioners practice gynecology to a considerable extent. Intra-uterine injections are seldom justifiable, and then only when they can be employed by a safe instrument acting more or less on the principle of the double canula. For the vaginal injection with the syringe we recommend, the best possible ingredients are boro-glyceride in solution, borax, and even common salt in suitable proportions. Much of the benefit derived by women from sea-bathing, aside from the general constitutional tonic effect of sea-side air, and salt-water baths, is the fact that the sea water does actually enter the vagina during the usual exercise of bathing, and exerts thereby a cleansing, healing effect upon the vaginal walls. While the possibility of such entrance of salt water has been denied by some, on the ground that the walls are too closely approximated to admit any water, the fact remains the same that water actually does enter, and that inquiries made have proved this beyond question, not only in the case of multiparæ, but of others, and even virgins. The closure of the vaginal walls is not like that of the closure of sphincter ani. Besides these preparations there are others which can be used in greater or less strength, according to indications. The large tube will be found often too large for unmarried women, and for such cases the rectal tube can be used,

but generally speaking the larger vaginal tube is suitable where injections are found to be necessary. The use of the syringe can not alone cure diseased vaginal walls, and the atomizer and other appliances must play their part, not to speak of the surgery necessary for the uterus and the special treatment needed in all uterine cases. In vaginal injections properly administered we have an invaluable aid in the treatment of many of the diseases of women, and a guard against the attacks of diseases to which woman is so liable.

In conclusion, the physician should be careful to advise against the prolonged use of vaginal injections during pregnancy, and also to caution patients against using injections of any kind during the menstrual period.

23. *PAINFUL Menstruation and Sterility from Flexion.*

DR. WILLIAM GOODELL.—The operation which I can recommend to you most highly is that of forcible dilatation. The instruments which I use are two modified Ellinger dilators of different sizes, made under my supervision by Messrs. J. H. Gemrig & Son, of this city.

In a case of dysmenorrhœa, or in one of sterility from flexion or from stenosis, my mode of performing the operation of dilatation is as follows: The patient is thoroughly anæsthetized, and a suppository containing one grain of aqueous extract of opium is slipped into the rectum. She is then turned on her back, and drawn to the edge of the bed, each knee being supported by an assistant. The light must be good, so that the operator can see what he is about. My bivalve speculum being now introduced, the vagina is well swabbed out with a five per cent. solution of carbolic acid. By the aid of a strong uterine tenaculum, the cervix is steadied and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that, when the instrument is closed, it can be made to pass up higher. Thus by repetitions of this manœuvre, little by little, in a few minutes time a cervical canal is tunnelled out which before could not admit the finest probe. Should the os externum be a mere pinhole, or it be too small to admit the beak of the dilator, it is enlarged by the closed blades of a pair of straight scissors, which are introduced with a boring motion. As soon as the cavity of the womb is gained, the handles are gradually brought together, and allowed to stay so for one or two minutes. The small dilator being now withdrawn, the larger one is introduced and the handles are then slowly screwed toward one another. If the flexion be very marked, this instrument after being withdrawn, should be reintroduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this the operator must take good care not to rotate the womb on its axis, and not to mis-

take the twist for a reversal of flexion. The ether is now withheld and the dilator kept *in situ* some fifteen minutes, when it is closed, removed, and the vagina well syringed out with the same solution of carbolic acid. Occasionally a slight flow of blood will last for several days after the operation, simulating the menstrual flux. Often the flux is precipitated or it is renewed, if the operation follows or precedes it too soon. The best time for dilatation is, therefore, midway between two monthly periods. Were the case before us a retroflexion, I should, after the dilatation, put in a pessary long enough to span the angle of the flexure. This never fails to straighten out the womb, and in time to restore it.

The patient will probably need not more than two suppositories, and she will complain merely of soreness for one or two days. To forestall any tendency to metritis, she will be kept in bed until all tenderness has disappeared. Pain will be met by rectal suppositories of opium, and by large poultices laid over the abdomen. Should the temperature rise and symptoms of pelvic inflammation appear, the ice-bag should replace the warm poultice. But I have not yet met with a temperature high enough to need this energetic mode of treatment.

After a forcible dilatation under ether, the cervical canal rarely returns to its former bent or former narrow condition. Since lateral extension of elastic bodies antagonizes their length, the cervix shortens and widens, and the exudation provisionally thrown out by the submucous lesions sustained by the dilated part, serves still further to thicken and stiffen its tissues. In other words, the stem-like neck of the pear-shaped womb is shortened, widened, strengthened and straightened. Hence for straightening out anteфлекed or congenitally retroфлекed wombs, and for dilating and shortening the canal in cases of sterility or of dysmenorrhœa arising from stenosis or from a conical cervix, the dilator will be found a most efficient instrument. Sometimes in sharply bent wombs, I put in a stem-pessary immediately after the dilatation. In retroflexion I always put in a pessary long enough to span the angle of the flexion, so as to straighten the womb, by making pressure on the fundus. To this occasionally a stem-pessary is added.—*Med. Age.*

24. OPERATION for Vesical-Vaginal Fistula without the use of the Catheter in the After-Treatment. DR. HUGH M. TAYLOR. (*Va. Med. Monthly*).—Before the lamented Sims contributed so much to perfect the operation for vesico-vaginal fistula, the use of the catheter, immediately after the occurrence of the fistula, was thought by many to be the only means at all likely to bring about a cure.

Professor Simon, of Heidelberg, has for some time contended that too much stress has been laid upon the use of all catheters after this operation, and also that the advantages of the metallic

sutures and the necessity of absolute rest have been overestimated. The patient we refer to had a fistula for twenty years, dating from her last confinement, which was instrumental in character. An examination showed that great destruction of tissue had resulted. The neck of the uterus looked as if it had been amputated close up to its vaginal attachment. There had either been destruction of its tissue, or the vagina was closely adherent to it, and covered it up; and the cicatricial bands had drawn or turned what remained of the os through the fistula into the bladder. It was only by fishing for it in the bladder that the exact location of the os could be ascertained. The adhesions were old and strong, and no reasonable amount of stretching served to bring the cervix back into the vagina, and we did not think it probable that frequently repeated stretchings would bring about the result.

The fistula was as large as a silver dollar, and the only way we could get tissue enough together to close the opening was by attaching the lower border of the fistula to the remains of the posterior cervical lip, or, more correctly speaking, to the mucous membrane of the vagina covering it. The tissues were so changed and blended at that point that it was hard to tell one from the other. In doing this operation, the os was enclosed in the bladder, necessitating menstruation through that organ.

What made the operation much easier than it may appear, was that the vagina was short and very capacious, and the cervix pulled down low by the adhesions; this rendered it easy to bring the border of the fistula and the cervix in apposition. A large surface was denuded, and eight or ten sutures were necessary to bring it together.

A piece of perforated rubber tubing, such as we had used successfully before, and seen used in a number of cases, was introduced as a catheter. For the first twelve hours it did its work well, and the bladder did not rebel against its presence. After that time, however, violent tenesmus came on, lasting several minutes at a time, or, in fact, until the catheter was expelled. Several times it was re-introduced, but quickly driven out again. At last, as a matter of necessity, we were obliged to leave it out, and allow the patient to pass her water, thinking this a lesser evil of two. We were under the impression that the catheter was the cause of the trouble, and hoped for its cessation as soon as we removed it. Our hopes in this respect, however, were not altogether fulfilled; for several days the bladder did not quiet down. Every twenty or thirty minutes the tenesmus would return, and last until a small quantity of urine was voided; and so frequent was the desire, that the patient kept the bed-pan under her all the time, and it was found impossible to keep her quiet. The straining was more like the second stage labor pains, and looked very much as if the bladder was trying to expel the neck of the uterus.

Frequently repeated doses of morphine and belladonna con-

trolled the tenesmus to some extent ; and finally, by the time the stitches were taken out, on the twelfth day, the desire returned only about every two hours, and was attended with but little pain and straining. Much to our surprise, the vagina remained perfectly dry throughout, and the union was found to be complete.

During all this disturbance, the urine remained free of mucus and phosphatic deposit. How much of this was due to the absence of the catheter, and how much to the free administration of lemonade, we are unable to say ; but from the confidence we have in lemonade in limiting phosphatic deposit, we are inclined to assign some effect to both.

25. A NEW Operation for Restoration of the Female Perinæum in cases of Total Loss. R. A. JAMIESON, M.A., in the *British Gynecological Journal*.—On examination I found total loss of the perinæum, the lateral walls of the vagina directly continuous with the inner surface of the thighs, without any tangible ridge or line of demarcation whatsoever. The anterior edge of the anus was concave, in consequence of the loss of a portion, represented by a puckered semi-elliptical scar, so that at the first glance the vagina and rectum seemed to form but one cavity. The vaginal mucous membrane, for about one inch from the anus was intimately blended with the anterior wall of the rectum, the recto-vaginal septum appearing here no thicker than an ordinary visiting-card. Above this, the rectum bulged forward and downward on pressure, but not sufficiently to constitute a rectocele. The uterus was somewhat low, but not remarkably so ; the os nearly central, cervix pointing slightly backward, no cervical laceration. Labia minora tumefied and excoriated ; large erythematous patches on internal surfaces of both thighs.

It was abundantly evident that no mere denudation and approximation of the sides of the cleft would suffice to remedy the condition. In fact, there was nothing left after the seventeen years during which the condition had existed that could be denuded and simply approximated.

The patient having been chloroformed and fixed in the lithotomy position by means of Pritchard's shackles, the vagina was thoroughly douched with a one two-thousandth solution of perchloride of mercury.

With great difficulty I separated the recto-vaginal septum into two layers for a distance of little more than an inch, and divided the vaginal portion longitudinally in the middle line, dissecting the mucous membrane of which it was a continuation, along with a border of the adjacent skin, forward on either side to the level of the insertion of the labia minora. This was not separated as a strip, but was simply lifted from its previous attachment, to the depth of about $1\frac{1}{3}$ inch parallel to the long axis of the body, its free borders being the line of longitudinal division just mentioned

and a curved line drawn about half an inch below the junction of the partly altered vaginal mucous membrane with the skin of the thigh. The horizontal border of each muco-cutaneous flap was transfixed with a long piece of catgut, to the end of which a bit of lead was attached, and the threads thrown upward and outward across the groins. A cutaneous flap in the shape of an isosceles triangle with convex apex was now raised from each ischio-rectal space, the base corresponding in position to the line of junction of the skin and mucous membrane, and in length to the region denuded. Each flap was four inches long. These were lifted with about a quarter of an inch of subcutaneous fat, and were dissected upward and outward to a line parallel to their bases, but a quarter of an inch external to them and a quarter of an inch deeper. The raw surfaces of the muco-cutaneous flaps were next stitched together with a cambric needle and fine catgut along their line of longitudinal division, to form the lower portion of the new posterior vaginal wall. Care was taken to unite their edges to a sufficient depth to secure union and to form a firm ridge along their line of junction. The new perinæum was formed by carrying a continuous catgut suture from side to side in the depth of the tissues, following lines about one-quarter of an inch internal to the dihedral angles formed by the inclination of the cutaneous flaps to the subjacent layers of areolar tissue. The anterior edge of the rectal mucous membrane was drawn down and firmly stitched behind to the new perinæum, and the restored posterior vaginal wall was secured to its anterior edge. The cutaneous flaps were then loosely replaced, leaving on each side about an inch and a half between their apices and the apices of their former beds. Four sutures (two on either side, one anterior and one posterior) were carried deeply into the perineo-crural angle so as to insure the formation of a fold in this situation. A line of sutures was carried along the edges of the flaps, and the borders of the gap left were drawn together.

The vagina was well douched with perchloride solution; half a grain of morphia was injected, the bladder was emptied and the patient removed to bed and surrounded with hot bottles. The operation lasted a few minutes over an hour. The patient rallied well from it, and complained of but little pain.

The perinæal region was examined on the fifteenth day, when the artificial structure was found in a perfectly satisfactory condition, the sloughing process not having approached it. Firm pressure on it from within the vagina showed it to be dense and resistant.

26. ANTEFLEXION of the Uterus. Dr. G. G. Roy, in *Southern Medical Record*.—I desire to call attention to the very excellent results in my hands in the use of seatangle (laminaria) tents in overcoming the atresia of the cervical canal, at and often-

times anterior to the os internum as usually found in antelexions in young women.

After the necessary depletion of the uterus by means of tampons of absorbent cotton, alternative application of iodoform, or tr. iodine, carbolic acid and glycerin, I begin dilatation of the cervical canal in the following manner :

If the canal will admit of the smallest sized tent, bent at the angle the flexion may have, I introduce it half an inch beyond the flexion (and that I have not found attended with much pain or inconvenience) and let it remain until *fully expanded*, and then withdraw it.

If the womb has not become too sensitive from this procedure, another tent a size larger is introduced and dealt within the same way, and this is repeated until the canal is as large as desirable. When the seatangle tent is bent (and when of good quality and flexible texture, without blemishes, this may be done to almost an acute angle) and introduced, as it expands it straightens, and in doing so, diminishes the flexion to a certain degree also. When the womb is not held by adhesion or other causes, this gradual dilatation with the tents will often overcome the flexion entirely without the loss of blood, and with no more pain than attends the ordinary use of these tents.

Sometimes we meet with cases in which there is complete occlusion of the internal os, together with a considerable portion of the canal anterior to the os, the result of organized plastic exudation, and through which we can neither introduce the tents nor the dilators without using an unjustifiable degree of force. In such cases I have had excellent results in opening up a passage through the canal by using the seatangle tents in the following manner :

First, measure the length of the cervical canal, unobstructed, and cut the tent this length and introduce it well up (firmly) against the lower point of obstruction and retain it there by compresses of absorbent cotton nicely and evenly adjusted till the vagina is well filled and the womb is securely steadied. This tent is allowed to remain until it gives its utmost degree of expansion and then withdrawn. You will then discover that a perceptible degree of this obstruction has been overcome, and quite an increased length of the canal gained. Another tent of sufficient length to meet this gain is introduced and retained in the same way ; and this plan is continued (using a longer tent each time) until the occlusion of the canal is overcome and the internal os is sufficiently open to admit a tent bent at the angle of flexion then remaining, and it will be discovered that a tent several sizes larger than the one used at the beginning of the treatment may now be passed. After this tent has served its purpose, it is withdrawn and another, larger, and bent at a more obtuse angle, is introduced, and this plan is continued until full dilatation is effected, when the flexion will be found almost, if not entirely restored.

27. METHOD of Perineorrhaphy. *Reported in the Medical Current.* JOHN W. STREETER, M. D.—The method of performing the operation for repair of lacerated perinei as devised by Dr. Streeter, is to my mind superior to any I have ever seen others perform or figured in books.

The patient is placed upon her back, the legs flexed upon the thighs and the thighs upon the abdomen. The operator having decided how much of the aperture to close, makes an incision along the muco-cutaneous junction, through the mucous membrane. Then with a scalpel, but preferably a pair of blunt-pointed scissors, dissects up the mucous and sub-mucous tissue in the form of a triangle, the base being at the outlet and the apex at the inlet of the vagina, leaving the margins which form the sides of the triangle and the apex, intact. No tissue whatever is cast away, as in the ordinary method of operating. The divided tissue is now lifted up toward the symphysis pubes, and the wound closed with silver sutures as in the ordinary manner. To hold the muco-cutaneous margins together, two superficial stitches of silk, one on either side of the united perineal walls, are used.

To summarize its points of excellence :

1. There is no delay for fear of non-union on account of capillary oozing.
2. The separated tissue of the vaginal floor acts as a bridge to the wound, and thus prevents any vaginal or uterine discharge coming in contact with the raw surfaces, thereby delaying or entirely preventing proper union.
3. The care of the patient is much lessened. Catheterization and vaginal douching being absolutely unnecessary.

28. UTERINE Displacements and their Treatment by Means of Medicated Tampons. DR. ROBERT BELL, in the *Fort Wayne Journal of Medical Science*, writing upon the subject of uterine displacements, says so many of the pathological conditions induced by the flexion are not so thoroughly relieved when the cause is removed by the application of a pessary, as when the uterus is supported by the tampon. This will be obvious when we recognize the fact that the tampon acts also as a depleting agent. We are all familiar with the great power glycerine exerts in abstracting fluids from an œdematous tissue ; but it may not be equally well known that this power is very much enhanced when the glycerine contains alum in solution. Moreover, the presence of alum, by virtue of its astringent properties, gives tone to the vaginal wall and the uterine wall and supports. The tampon, therefore, when saturated with a solution of this salt in glycerine, and properly applied in flexions or versions, acts in three different and beneficial ways : first, as a support ; second, as a depleting agent ; and third, as an invigorating agent to the uterus and vagina.

It will be obvious, then, if we can, while taking advantage of the depleting power which glycerine is known to possess, at the same time augment its power in that respect by the addition of an agent which will simultaneously, by its styptic powers, reduce the arterial supply, and by its astringent properties induce contraction of the uterine muscular fibres, and then naturally assist in the expulsion of the venous blood—I say it will be obvious that we will, to a very considerable extent, counteract the evil effects of the malposition. Now, alum is endowed with these powers in a most marked degree. It has the further advantage—and it is no inconsiderable one, I can assure you—that it does not stain the underclothing of the patient, like some other astringents. It is still further to be recommended because of its effect on the catarrhal discharge, which it coagulates, and consequently prevents its decomposition. By this effect it destroys the irritating properties of the discharge. Under its employment by means of the tampon, as a result of this property, I believe, papillary ulcerations rapidly disappear, and hypertrophy of the cervix subsides. In simple endocervicitis which, I am of opinion, in a great number of instances, if not actually induced, is at least rendered chronic by decomposition of the natural secretions, it proves of immense benefit. If to the therapeutic properties which the medicated tampon possesses, we add its ability to act as a support, when properly applied, to the dislocated fundus, and, moreover, that it can be gradually made to exert an increasingly greater amount of power as the hyperæsthesia of the uterus becomes reduced, it must be acknowledged that it can be employed as a pessary when the ordinary vaginal pessary would be a most dangerous instrument to insert. The tampon forms a bed for the dependent fundus to rest upon, and it is easily moulded to suit the exigencies of the case. Each successive tampon by degrees elevates the fundus until it is made to occupy its normal position, while simultaneously the hypertrophy and congestion are being removed by the therapeutic properties of the medicaments with which the tampon is saturated. When the normal position of the uterus has been re-established, it is retained there either by a continuation of the treatment for a little time, or, if it is thought more advisable, by the application of a well-fitting vaginal pessary. It not frequently, however, has happened in my experience that the tampon has accomplished all that could be desired, a complete recovery having been the result, and this often when a pessary has been worn for years without affording relief. In like manner, when prolapsus is present, especially when due, as it frequently is, to a greater strain being thrown on the uterine ligaments and vaginal wall by the constant dragging of a subinvolved organ, we observe the immense benefit derived from this tampon. It matters not whether the hypertrophy, as in subinvolution, is the primary cause, or whether it is secondary to the prolapsus, which we know often is the case—I

say it matters not how the prolapsus has been produced, or in what manner the hypertrophy has risen, we obtain the dual effect of the tampon and relief of the symptoms.

I should add, perhaps, that the tampon varies in size with that of the vagina, and that it is as well to attach a piece of fine cord to make its withdrawal easy of accomplishment. The proportion of alum to glycerine is one in eight, and to every eighty ounces one ounce of boracic acid is added to keep the tampon from becoming fetid, which it otherwise would do if the discharge from the uterus is at all copious. The tampon itself is composed of corded cotton.

29. ABSENCE of Uterus and Vagina. DR. J. E. BURTON showed the uterine appendages from a case of absence of uterus and vagina. "The patient from whom the specimens were taken first came under notice about two years ago. She was then 23 years of age, was suffering from intense and continuous headaches, pains in the pelvis and elsewhere, and she had never menstruated. On being informed that something was wrong with the external genitals, I made a digital examination, and succeeded at last in determining that the vagina was certainly absent, that the uterus was almost certainly so, and that the ovaries were present, although I could not determine their presence by physical examination. I inferred this from the general vascular fulness and pains, and also from finding the urethra large and open. I concluded that the urethra would not have been in the condition it was in if there had been complete absence of sexual feeling; and the assumption of some sexual feeling led, almost necessarily, to the assumed existence of some sexual organ, and the uterus and vagina being absent there were only ovaries and Fallopian tubes to fall back upon. I concluded, then, that the ovaries were probably present."

"In the spring of the present year she came to me again, not a bit better for any medicinal treatment that she had ever had, and I suggested the propriety of an exploratory incision, in order that the ovaries might be removed if my expectations as to their presence were fulfilled. She was at last admitted into the Hospital for Women, and on June 23rd the ovaries and portions of tubes, as you see them, were removed. The result fully justified my expectations, as the patient experienced almost immediate relief from her symptoms, and they have not returned up to the present."

DR. AVELING said he had seen five cases in which there was neither vagina nor uterus, although the ovaries were present. In one case the patient suffered every month from headache and general discomfort. She declined to have the ovaries removed. The existence or non-existence of the ovaries, he believed, might always be determined by the presence or absence of pubic hair.

In reply MR. BURTON said that the pubic hair of the patient was normal; the breasts were well developed; the labia majora,

and also minora, fairly developed—rather under if anything. The urethra was so large that the finger could easily be passed into the bladder, and thus the whole of the parts lying between rectum and bladder could be explored by means of a finger in each cavity. The only trace of uterus to be felt in the way was two small bodies, about the size and shape of split almonds, diverging from each other upwards (united Müller's ducts?). At the operation these bodies were both covered above by a reduplication of peritoneum and the uterine ligaments were continuous with this.

DR. CHALMERS showed a specimen of an ovum in ovo, the subject having been lately ventilated in the medical journals. This was an example of a perfect hen's egg, of almost natural size, enclosed with a perfect egg of abnormally large size. He mentioned the two explanations that had been given of this phenomenon—one that, owing to reversed peristaltic action, the egg, after it had received its shell in the oviduct, travelled back, got enveloped in another supply of albumen and yolk, and then passing on again to the oviduct received its second cretaceous covering; the other view being that the second egg overtakes the first in the oviduct after it has become covered with shell, surrounds it, and in turn gets its shell before being extruded.—*British Gynecological Journal*.

30. SALIX Nigra (Aments). *A New Sexual Sedative for Ovarian Diseases.*—Dr. F. T. PAINE, Comanche, Texas, after an active practical use of the floral buds of the common willow tree of our Southern rivers, creeks and lakes, as an anaphrodisiac, calls special attention to its great virtues in the *Transactions of the Texas State Medical Association*, 1885. He uses the fluid extract, in drachm doses, three or four times daily. In cases of simple *hyperæsthesia of the ovaries*—what is too often falsely called *ovaritis*—it generally acts like a charm. One lady after ten days' use of the fluid extract in teaspoonful doses three times a day, reported:—"If a woman takes that medicine, she don't care if there is not a man in the world." Previously the marital act had given her great neuralgic pain in the ovarian region; now she had none. A sterile, dysmenorrhœal married lady, 35 years old, who suffered intensely one or two days at each menstrual period, came under his care in 1882. She was almost maniacal during these periods. The ovaries were prolapsed and intensely hyperæsthetic. Drachm doses of the fluid extract of *salix nigra* three times daily were prescribed. At the next month the catamenia passed off as pleasantly as a May day, and they have so continued—now over two years. The medicine produced no change in her relations to her husband. The doctor details other cases showing its almost specific value in the treatment of hyperæsthetic ovaries, and says he could add many like favorable reports of cases. Generally speaking, he has found, in

cases of hyperæsthetic ovaries, little or no venereal passion to exist during the disease.

31. RARE form of Ovarian Tumor. Edinburgh Obs. Society.—DR. ANGUS MACDONALD presented an ovarian tumor possessing some peculiarities. The tumor was removed three weeks ago, and presented peculiar relationships. It had been diagnosed by the medical man in attendance as hard tumor on right groin, with a fulness in the abdomen. The lady had been seen once by Dr. Macdonald before this and sent back. There was a history of perimetritis three months previously to that visit. The diagnosis was easy—an ovarian tumor with fluctuations, etc. The most remarkable feature in the case was the position of the uterus, which was displaced much as we find it in retro-uterine hæmatocele; *i.e.*, the tumor being deep in the pelvis, the uterus could only be felt and nothing more, being displaced upwards in front of the tumor. Dr. Macdonald was prepared to find the uterus high, but, as a matter of fact, found it right in front of the tumor. The tumor was fixed to the fundus by firm adhesions. After fixing the uterus firmly, the tumor was punctured, and a quantity of fluid escaped. Beyond those binding the tumor to the uterus no adhesions existed; and these being broken down, the tumor was readily removed. A body was found attached to the side of the tumor, which he supposed to be the ovary. The points to be noted in this case are:—1. The way in which the tumor had attached itself to the uterus, and which explained the way in which the uterus was drawn up. 2. A practical part of importance is the danger of mistaking the flat uterus for part of the tumor, and of passing the trocar through it.

DR. FOULIS said that a point of interest was to decide which of the two masses was the ovary, the larger or smaller. It seemed to him at first that the smaller was the ovary; but more careful examination convinced him that this was not the case, and that no ovarian characters were to be found in the smaller mass, which consisted chiefly of areolar tissue; and he was consequently inclined to regard this as one of those masses of foetal tissue which we sometimes meet with in this position, but which have no true connection with the ovary proper. He had often seen them in examining the ovaries of very young children. They seem to be originally masses of ovarian tissue, from which all true ovarian elements eventually disappear completely.

32. STERILITY. DR. W. GOODELL, *Med. and Surgical Reporter*.—You will frequently have women come to you, complaining of sterility, expressing a desire to have children, and imploring you to do something for them. There are many intricate points in connection with this question of sterility. When dysmenorrhœa is present, there is no doubt that you ought to dilate;

but when it is not present, will you dilate? Sometimes yes; for you must remember that in the act of conception, while there is an ejaculatory movement on the part of the male organ, there is a suction, an aspiration on the part of the uterus, and while a *crooked* organ may be able to expel its contents without giving rise to much trouble, it will not be so easy for it to aspire the semen. But this is only one of our numerous perplexities. A common cause of sterility is gonorrhœa, the inflammation of which travels up the womb, along the Fallopian tube, and renders the covering of the ovary so thick and tense that the ovum can not escape, or if it does get out, the fimbriated extremity of the tube is so agglutinated that it can not grasp it. Another cause is that the ova may not be sufficiently healthy to be impregnated, which occurs not infrequently in women who are suffering from nervous prostration. Again, the absence of sexual pleasure is set down as a cause; some women who do not experience pleasure will conceive, but the absence of pleasure is rather damaging to conception. Some women are so fastidious that they will not admit that they experience pleasure; with a shame-faced modesty, they consider such admissions as common and vulgar. But it can not be common when ordained by divinity, sanctioned by the most sacred usage, and hallowed by love.

Some years ago I had a very intelligent patient, who was sterile, and who was very anxious for children. She had dysmenorrhœa, and I dilated her womb; it was no use. I made various applications, all of no avail. She was under my care for two years, but she could not conceive. Finally, I heard that her husband was under the care of some quacks, and a thought occurring to me, I sent for him. He was a fine, hearty man, had perfect sexual passion, and was full of semen. I procured some of this fluid, and upon examination by three competent microscopists, not a single spermatozoon could be found. Here was a solution; the fault was with the husband, he was impotent. It transpired that when a young man he had gonorrhœa and epididymitis, and this had rendered him sterile. Such a condition may exist in the present case. As a rule, however, it is the woman who is at fault. Quacks will get a hold of such men and show them their semen without any spermatozoa, tell them they are impotent, promise a cure, and give some drugs. After a while, as came out in a trial in England, they will show them under the microscope some vinegar containing the vinegar eels, which they assure them is their semen, tell them they are well, and demand a large fee. It is repugnant, but it is wise, to examine the semen in these cases. Menorrhagia is a cause of sterility. The impregnated ovum, before it has secured a good hold in the uterus, is washed away by the next menstrual flow, if it is excessive. Another cause is tissue-change in the uterus, brought about by long-continued dysmenorrhœa, whereby a proper decidua is not formed. The prob-

lem of sterility is a very difficult one to solve, unless we have dysmenorrhœa. It may be due to an absence of the ovaries, but in such cases we would have an infantile womb. Remember that a woman is a woman not because she has a uterus, but because she has ovaries.

33. *ELECTRICITY as a Therapeutic Agent in Gynecology.*

DR. A. R. BECKER.—Exactly why electricity should prove so beneficial in such opposite conditions as amenorrhœa and menorrhagia, it is impossible to say, except in a general way, that either condition is produced by or productive of deficient or perverted nervous force. But in either condition (*of course* excluding all all cases where there is acute, or even subacute inflammation), I *know* that the galvanic current, *properly applied*, will more generally bring relief than any other form of treatment.

My aims and rules of procedure have been few and simple :—

First, never to produce more than a very slight pain, in some cases a slightly hot tingling, in others "a little unwell pain," as the patients express it. Broadly, one may say that this should be accomplished by from three to six or eight, or at the most ten cells of a "Smart" battery. But the batteries vary greatly, and each physician must become thoroughly acquainted with his own instrument. Nor do I believe that the galvanometer, as urged by Dr. Birdsall, can take the place of the patient's sensations. I use a cup and stem insulated electrode at the cervix uteri (*positive* pole, to lessen the tendency to stick to the mucous membrane), and interrupt the current with a common sponge electrode over the pubes. This—while bringing the uterus, and if desired, the ovaries and tubes well within the circuit—does not involve any undressing of the patient, or at most only the removal of the drawers, if worn close.

And second, to give the *tonic* effect of the current, but *never to exhaust the nerves* by a too prolonged application. This I consider a matter of the very first importance. My applications vary from three to five minutes, and never (in such cases) exceed the latter limit. Since the adoption of this rule, my results have been far more satisfactory.—*Boston Med. and Surgical Jour.*

34. *CORROSIVE Sublimate and Glycerine in Epithelioma of the Cervix Uteri.*—In *The British Medical Journal*, DR. BIDDLE says, "There are few things in the way of palliative treatment that have given me greater satisfaction than the use, in a case of epithelioma of the cervix uteri, of a lotion or injection containing one-fourth of a grain of corrosive sublimate and half an ounce of glycerine, to a pint of water. Before using it, a patient of mine had for seven or eight months been subject to paroxysms of agonizing pain, and frequent hæmorrhages, which were occasionally profuse. Immediately upon its employment, and for the last three months

of her life, the hæmorrhage became merely nominal ; and, instead of agonizing pain, there was simply the distress consequent upon irritation (by the tumor) of the bowels and bladder, the latter of which became perforated a week before death. I attribute the beneficial change to the very marked reduction in the amount of infiltration. The lotion was used continuously, with very few exceptions, twice a day during the three months ; and I shall certainly adopt the same treatment in the next case I have, even before recovery is despaired of. In the case referred to, it was not tried until the curative effect of chromic acid had been tried in vain."

35. PAROTITIS After Ovariectomy.—The well-known connection existing between the parotid gland and the genital apparatus, frequently manifested in a swelling of the testis subsequent to parotid inflammation, has recently been found to express itself when the reproductive gland constitutes the initial point of irritation. Thus in addition to the case of Bilroth, in which parotitis followed a traumatic orchitis, there are now on record nine cases in which inflammation of the parotid appeared as a sequel of ovariectomy. In only one of these cases did any possibility of infection exist.—*Centralb. f. Chirurgie.*

36. ENDOCERVICITIS.—DR. J. K. SHIRK writes : "There is one condition of the cervix uteri which resists all ordinary methods of treatment. I refer to that obstinate form of endocervicitis, in which a discharge quite similar to the white of an egg is poured out in great quantities. In all forms of cervical catarrh this secretion is produced more or less, but in the form I refer to the glands are remarkably active and produce immense quantities of this discharge. As said before, the ordinary forms of astringent and caustic applications will not cure this condition. I have found but one remedy that will cure these cases, namely, an aqueous solution of chromic acid (3 j. to aqua 3 j.). Four or five applications of this remedy at intervals of a week usually suffice." Another mode of treatment is to curette the glands.—*Amer. Practitioner.*

37. NEW Method of Treatment in Uterine Disease. The Dry Method.—DR. ENGELMANN reviewed the various methods of treatment customary in different countries, and characterized America as the land of nitrate of silver and iodine—the former, once most popular, now gradually yielding to the latter. He had long since given up as injurious, rather than useless, the use of strong intra-uterine applications, generally speaking, of course, as in certain cases they were needful and the only proper remedy.

Dr. Engelmann had at first naturally followed the practice of those about him, but soon gave up the indiscriminate use of

strong fluids, using weak solutions, or dilute fluids. Since 1873 he has endeavored to replace fluids, whenever possible, by powders, at first trying tannin, iron, nitrate of silver (in small proportions) in bacilli. In the majority of cases he relies on medication applied to the cervix by means of cotton and the powder-blower. He deems it very wrong to treat a diseased uterus through its smallest and most delicate part, the mucosa, but would rather rely on treating that sensitive membrane through the uterus; hence the use of powders and medicated cotton.

Dr. E. mainly uses iodoform, borax, bismuth, oxide of zinc, alum, tannin, calomel, and sulphate of zinc, which are dusted over the cervix and vaginal walls. Iodized, carbolized, borated, tannated, salicylated, and iron cotton, and corrosive sublimate jute he considers the most delicate means of applying a remedy, as it is kept in contact with the parts, until gradually absorbed; the cotton, at the same time, must be judiciously placed, so as to rectify such malposition as almost always exists more or less in a diseased uterus.

This method is a most happy combination, as it combines the best and least irritating way of ameliorating displacement with a delicate and effective method of treating the co-existing pathological condition. Moreover, a support, such as is afforded by the properly placed cotton or jute tampon, is an aid to treatment and a relief to the patient, in morbid conditions not directly complicated with displacement; the sensitive, afflicted parts are supported; a strain is removed.

The dry method—the treatment of the uterine mucosa through the muscular and surrounding cellular tissue—has beyond the advantage of greater certainty that of comfort and cleanliness; it is not painful, the patient does not suffer in the office, is not in agony during the treatment, nor does she go home to be reminded of her suffering by hours and hours of cramps and pain. She leaves the office comforted, feeling better.

Dr. E. does not cast aside intra-uterine applications, but claims that they should no longer be resorted to as a routine of treatment, and when called for should usually be of milder character than now commonly applied.

Many a victim to pessaries will be spared when the dry powder and cotton treatment is adopted, as the gradual replacing of the diseased organ is far better accomplished by medicated tampons, while the morbid condition is at the same time done away with, than by the irritating and dangerous pessary—not that the doctor desires to interfere with the pessary in its proper place as a support to the movable and healthy, but displaced uterus.

38. BRITISH Gynecological Society. Address by ALFRED MEADOWS, M. D.—Turning to a mention of some of the subjects which have been discussed during the past year, I would put in

the forefront, the discussion on uterine fibromata, though I dissent from many of the opinions advocated by Dr. More Madden. It is not too much to say that the discussion, and the specimens of this disease which have been exhibited here by Dr. Bantock, Lawson Tait, and others, have advanced considerably our views of the proper treatment to be adopted in these cases : and I may perhaps be allowed now to make one or two observations on the subject. It will be recollected that the author objected rather strongly to the practice of treating these cases by hysterectomy, or indeed by any surgical proceeding, on the ground that the disease very seldom ends fatally, and that therefore a formidable operation is not called for, and can only be regarded as justifiable in very exceptional circumstances. Wide differences of opinion were proved to exist among the Fellows of the Society as to the danger of leaving these cases alone ; some, though a very small minority, regarding them as comparatively harmless cases ; while the experience of others, and that a large majority, showed that fatal results are by no means unfrequent. It is obvious that the question of the propriety of resorting to surgical interference depends in great measure upon whether the disease is or is not to be regarded as one involving any danger to life if left alone. Speaking from my own experience, I have no hesitation in saying that a fatal issue, in the ordinary history of these cases, is by no means so rare as is sometimes asserted. Nor is it merely by gradual exhaustion and continued loss of blood that death not unfrequently occurs ; for there are other more sudden and more certain causes of death, which were not mentioned during the discussion. I have seen again and again inflammatory attacks occurring in the tumors themselves, and leading in some cases to suppuration within the substance of the tumors, and to subsequent death by pyæmia ; while in other cases phlebitis has occurred, and death has resulted from pulmonary embolism. Two such cases occurred in my practice within the last two years. Sir Wm. Jenner saw one of them with me. Both of these might, I believe, have been saved had the patients consented to surgical interference ; but they had been told that the disease was perfectly harmless, and therefore refused to have any thing done to rid them of it. I have seen many cases of inflammation of uterine fibroids, and I always regarded the condition as one of extreme gravity, for the course of the inflammation is very uncertain and erratic, and liable to accidents, so-called, of the kind above mentioned. I have also seen several cases end fatally by gradually exhausting discharges, while others have terminated more suddenly by violent losses of blood. I well remember, years ago, being called suddenly to a case of violent flooding, which had come on while the patient was walking in the street. She was carried home, and died in a few hours ; but, before she died, I found that she was the subject of an intra-uterine fibroma, for which she

had long been under medical treatment, which I do not hesitate to say was worse than useless ; but was told that the disease was perfectly harmless, and that at the change of life it would disappear. She, however, died before that happy change occurred. My experience, therefore, is dead against the opinion as to the harmlessness of these growths. Hence, I am an advocate for more frequent resort to surgical interference, and I should regard a death occurring in the history of an uterine fibroid as casting a great slur upon the professional reputation of the attending practitioner.

On the question of enucleation *versus* hysterectomy, I also entertain a very decided opinion adverse to the former, except in certain clearly defined cases ; and I would lay down this rule with regard to the question of enucleation ; namely, that in all cases where the uterine cervix is perfectly healthy, and altogether free from the disease, which is, therefore, limited absolutely to the fundus and body of the uterus, enucleation is wholly inadmissible, and hysterectomy ought to be performed. The cervix in such cases forms an admirable pedicle or stump, and the whole disease, being above the cervix, is well within the compass of removal by abdominal section. Where, on the other hand, the disease is in one or other uterine wall, and invades the whole cervix, so that the anterior or the posterior lip is occupied by the growth which thus projects into the vagina, where the disease can and ought to be attacked, for it is easily accessible *per vaginam*, and can, as a rule, be easily shelled out from the loose cellular bed in which it is developed.

As to the medicinal treatment of all these growths, I expressed a very decided opinion years ago, which subsequent experience has amply confirmed—that it is worse than useless, and I would say scarcely honest, to attempt any such with a view to cure ; it is mere waste of valuable time, and, so far as the patient is concerned, an equal waste of valuable money.

Upon the question of the removal of the ovaries in these cases for the arrest of menstruation, and consequent arrest or the cure of the disease, my experience has thus far been decidedly favorable ; though, as I have already mentioned, I have one case now under observation where the removal of the ovaries twelve months ago has not been followed by the cessation of menstruation, and the growth is still increasing in size. Nor do I think that this proceeding can have more than a limited application ; namely, to those cases in which the growth is certainly not larger than a foetal head at term, where the tumor is also interstitial, and therefore liable to flooding, and where the patient is under forty years of age. It should be remembered, too, as in favor of this operation, that while it is not one which is attended with much risk, its failure for the purpose in question does not preclude us from subsequently resorting to the more radical method of complete extirpation of the disease by hysterectomy.

Another very interesting and suggestive paper was that of Dr. Bell on dysmenorrhœa. The condition of which it treated is so common, and the views entertained by gynæcologists regarding its pathology and treatment so diverse, that much good must follow the publication of a paper so thoughtful and philosophical. Moreover, as a protest against what the author regarded as a too mechanical tendency in the treatment of this affection, it would undoubtedly exercise a thoughtful influence over the minds of gynæcologists. At the same time, I feel bound to say that my own experience accords very closely with that of most of the speakers in the belief that, in a very large proportion of the cases of dysmenorrhœa, the pain is entirely due to mechanical defects of a more or less obstructive character, and is only to be successfully combated by mechanical interference. It is well, however, that we should now and then have our attention called to the work which others are doing in what I may term the anti-mechanical field of uterine therapeutics. There is no doubt, I think, that the natural tendency of the busy life we lead is rather toward a narrowing of the field of our mental vision in proportion to the activity of our occupation. We seem sometimes to live almost too fast even to think ; and such a habit of over-activity and preoccupation tends rather to limit and contract our mental vision, and thus to cause us, as it were, to run too much in a groove, and to be satisfied with insufficient inquiry. Hence, a paper like that of Dr. Bell calls upon us to halt and reflect ; and though we may go on again, working on the same lines as before, yet the halt will have done good, even if it only confirm us, after mature reflection, in the opinion we previously held.

A brief but very interesting discussion arose upon a specimen, brought forward by Dr. Fancourt Barnes, of the kidneys of a woman who had died of albuminuria in pregnancy. The opinion seemed to be very general, but certainly not universal, that in all cases of albuminuria in pregnancy abortion ought always to be induced. I can not altogether accept this doctrine, and the rule which I would recommend is this : that we should first of all differentiate cases of albuminuria in pregnancy into two classes, first, those in which the disease is recent and acute ; and, secondly, those in which it is of long standing and chronic. The symptoms in these two cases are generally very plainly marked, and the microscope will usually distinguish between the two with unerring precision ; for while casts will be found in both cases, they differ materially in their character and significance. In the chronic variety they are of large size, granular, and sometimes contain secreting epithelium upon their surface ; while in the more recent and acute form, the casts are small, waxy, transparent, hyaline, and not at all granular. Hence the distinction is very marked, and so are the symptoms ; and the treatment in the two cases, ought, I think, to be widely different, and to be based upon these facts ; for, as

the chronic variety is not likely to be made much worse by the pregnancy, the acute form is pretty sure to become chronic if the pregnancy be allowed to go on. Moreover, interference of a surgical kind is far more likely to be attended with mischievous results in the former case than in the latter; for we have abundant evidence to prove that surgical operations can not be performed with impunity on persons who are the subjects of chronic renal disease. This was indeed illustrated painfully in the case brought forward by Dr. Fancourt Barnes. But this fatality is by no means the rule in cases where the albuminuria is recent and acute; operative interference is here tolerated not only with impunity, but with manifest relief to that condition which calls for the operation. Again, in the case of the chronic variety, the life of the mother is, if I may say so, to some extent relatively of less value than in the other class of case, because she already has a mortal disease, and therefore the life of the child has a stronger claim upon us, and we should do what is best for it by allowing the pregnancy to go on. For all these reasons, then, I would lay down this rule: that in chronic cases, such as that brought forward by Dr. Fancourt Barnes, no interference with the course of pregnancy should be attempted; it is dangerous to do so, fatal to the child, and we can not thereby prevent the development of the disease which has already become permanently established. In recent and acute cases, on the other hand, operative interference is well tolerated, to the evident relief of the symptoms; the disease is thereby prevented from becoming chronic, and so ultimately endangering the mother's life; and lastly, the child's life is of less value when put in comparison with that of the mother, which is certainly threatened if the pregnancy goes on. Such is the rule which I would venture to lay down for future guidance in these cases.

Obstetrics.

39. HYPNOTISM During Parturition.—Dr. E. PRITZEL reports a case of childbirth during hypnotism, probably the first of the kind on record.

The patient, single, 26 years of age, was admitted to the obstetrical wards of Prof. Braun in the eighth month of pregnancy. She had always menstruated regularly from her fourteenth year up to January of last year; since then her health had been good, and she had been entirely free from the nervous manifestations so common during pregnancy.

Upon examination, it was found that she was readily thrown into a hypnotic state by holding a thermometer-bulb before her eyes for a few moments; she became unconscious and insensible to all irritations, while her color, pulse, and pupillary reactions remained unaffected. At the end of a quarter of an hour or half an hour, the patient was aroused by long and continued irritation, shaking the body, blowing upon the cornea, slapping the breast with cold wet cloths, etc. After revival, she declared that she felt well after each experiment, but it was noticed that it was usually followed by a deep, but natural sleep.

Labor set in October 30, and during the first stage she was restless and unmanageable. Cramps in the limbs and intensity of the pains during the second stage suggested a narcotic or the induction of artificial hypnotism. The latter expedient was adopted, and with entire success. She became unconscious and insensible. It was found that, instead of decreasing in force, the uterine contractions became more energetic, and were aided by the abdominal muscles. While the patient was entirely insensible, it was still noticed that she bent the left forearm as if cramp were present, and there was considerable stiffness in the left leg; the right side of the body was unaffected. Between the pains she lay motionless, as if asleep. A well-developed female child was born, which cried lustily; the placenta was expelled, under the influence of abdominal pressure, in three-quarters of an hour. The patient was awakened by holding ammonia to her nose and shaking her, after unconsciousness lasting an hour and a quarter. The confinement was in every other respect strictly physiological. In two other cases from the same clinic the method was also successful, although to a less marked degree.—*Wiener Medizinische Wochenschrift*.

40. PATHOLOGY of the Post-Partum Uterus. By A. H. FREELAND BARBOUR, M.D.—I. Puerperal Septicæmia.—Present state of our knowledge. To comprehend fully the present condition of our knowledge of puerperal septicæmia, we must go back

to the suggestive paper by Sir James Y. Simpson "On the Analogy between Surgical and Puerperal Fever." More recent scientific investigation has worked along the lines of this analogy, and the results have proved that it rests on a sound pathological basis. These results promise to carry us further, and establish not only analogy but identity. The next important step was the discovery by Pasteur, in 1857, of the lactic-acid ferment, which gave birth to the germ theory of disease.

In connection with puerperal septicæmia, there have been various forms of germs described : (1.) Monococcus, consisting of isolated points ; (2.) Diplococcus, which Pasteur considers characteristic of the formation of pus, and which he calls *M. Pyogénique* ; (3.) Chains of Micrococci, which consist of several members ; when seen separately each chain is found to be disposed in irregular S-shaped curves ; (4.) Micrococci arranged in chains similar to the last mentioned, but larger in form ; (5.) Rodshaped Bacteria. Of these (3) is the one which the majority of observers have described in connection with puerperal fever, and which Lomer says has been found in all cases where it has been looked for. It is necessary to discriminate between the places where the microbes have been discovered, noting whether they have been found (*a*) in the blood during life, (*b*) in the discharge from the genital wounds, or (*c*) in the tissues after death. Results obtained from *b* (*i.e.*, examination of the lochia) must be taken with great caution, since it is impossible to prevent access of germ-laden air to the lochia.

Although we must wait for further investigation to determine the exact relation of germs to septic poisoning, there has been established the very important facts that we have the same pathological changes in puerperal as in surgical septicæmia, and that these hold exactly the same relation to the germ theory. In most cases of puerperal fever we have simply to do with blood poisoning from unhealthy wounds, identical in pathology with the blood poisoning from an unhealthy condition of the wound after an amputation. The constitutional symptoms are, of course, modified by the puerperal condition, just as the local changes are effected by the peculiarities in the anatomical structure of the post-partum uterus—the condition of the tissues lining its cavity, its enlarged veins and lymphatics, and its hypertrophied parametric tissue. We need only point out what a favorable soil the breaking down tissue of the placental site offer for the growth of micro-organisms, and how the removal of the epithelial covering from the whole of the interior of the uterus and cervix uteri favors septic absorption. That septic poisoning does not oftener occur is probably due to accurate apposition of the anterior and posterior vaginal walls (following the expulsion of the uterine contents), which prevents the entrance of germladen air, and also retards the growth of those organisms which, as Pasteur has shown, re-

quire air for their development. The fact that the epithelium of the vagina is not detached by the passage of the child is significant, as this will prevent septic absorption from taking place through its walls except when lacerated.

The practical conclusion from the foregoing is that the condition of the interior of the uterus should occupy the same place in the mind of the obstetrician that the stump does in the mind of the surgeon. The condition of the lochia gives valuable information as to the state of the uterine wound. We must remember, however, that we may have septic absorption going on without fœtor of the lochia. We must distinguish between putrefying matter (which will, of course, produce fœtor) and septic matter: all putrefaction within the uterus after delivery will cause septic poisoning, but not all septic poisoning implies putrefaction. We have a pathological basis for this distinction in the difference between the microbes characteristic of putrefaction and those described in septicæmia.

The germ theory receives confirmation from the fact that those substances which have been shown to be most effective in destroying micro-organisms have proved most useful in treating septicæmia. It is established beyond question that the washing out of the uterus with antiseptics in cases of puerperal fever is followed by the most remarkable results. Till recent years carbolic acid was the favorite antiseptic, but corrosive sublimate possesses so many advantages that it is gradually replacing it.

A great deal has been said against corrosive sublimate owing to toxic effects which have followed in a few cases. Koch has, however, pointed out that its action on germs is so rapid that long immersion is not necessary. In cases where we might be afraid of too much absorption of the sublimate an injection of water might be given immediately after the antiseptic one without diminishing the effect of the latter. The 1 to 2,000 solution is now widely used in this country, and we have never heard of any bad effects.

2. Adherent Membranes.—The following case of retention of a portion of the membranes throws light on the nature of this condition, about which very little at present is known. M. S., æt. 18 i-para, was seized with eclampsia at the seventh month; had enjoyed good health previously. Labor came on spontaneously, and, though tedious, was terminated naturally within 24 hours; the membranes ruptured early—before the os was much dilated. The placenta was expressed by Credé's method half an hour after birth of child. The placenta was expressed without difficulty; but it was not noted whether at the time any portion of membranes was retained. Patient was comatose after delivery, and died in ten hours, or 24 hours after the first eclamptic seizure.

In the post-mortem, made by Dr. Byrom Bramwell, there is nothing that interests us here except that there were the naked-eye appearances of renal disease, but no cardiac disease, nor signs of

sepsis or peritonitis in the abdomen. I obtained the uterus and found the following condition. Externally it measured $6\frac{1}{2}$ in. in length, and although flabby, shows nothing worthy of note; ovaries and tubes apparently normal; no inflammatory deposit in broad ligaments. On laying it open, the cavity measures 6 in. from os externum to fundus, of this the lower $1\frac{1}{2}$ in. is of a purplish red color (which contrasts with the mottled red appearance of the uterine cavity above it), and represents the cervix. The anterior and posterior walls measure 3 in. across at their widest part. The surface of the cavity of the body of the uterus presents three distinct appearances; on the posterior wall is an area (3×3 in.) which is ragged and of a purplish color—the placental site; the upper third of the anterior wall is smoother and paler than the rest of the cavity, which has a mottled appearance, due to little shreds of brick-red tissue adhering to it. The smooth appearance of the wall is evidently due to its being lined by a membrane which ends in a fringe; on stripping it off, one produces the mottled appearance which characterizes the parts where the membrane is not present.

For microscopic examination portions were cut from the cervix, from the wall of uterine cavity where the membranes were stripped off, and from the same where they were adherent. The sections of the cervix show that the epithelium is absent on the surface, but present in some glandular spaces below it, and that the superficial layers of tissue are broken up with recent hæmorrhages. Sections of the uterine cavity where the membranes are stripped off show a layer of decidua about 1-2 mm. thick covering the muscular wall. In those made where the membranes are adherent we observe the following points. In the lower part is the muscular wall. In the upper part, to the left, the membrane is adherent to the free surface of the uterus; to the right, it has been stripped off. Where it is adherent the decidua is broken up with hæmorrhages; these hæmorrhages are not recent, as is shown by the blood pigment in them and the tissue changes round them. Round these hæmorrhages the structure of the decidua is quite altered; in some places a layer of homogeneous condensed tissue takes the place of the cells, in others young connective tissue is forming. By young connective tissue I mean fibrous tissue; for the decidua is itself a connective tissue, as the decidual cells are the result, not of a metamorphosis of the epithelial lining the uterine glands, but of the interglandular connective tissue corpuscles. It is interesting to note that there is a narrow strip of tissue along the free edge of the uterine cavity into which these hæmorrhages do not extend; in some cases you see them stopping sharply at it and pushing it up instead of penetrating it. This strip of tissue is, I believe, the chorion, and its behavior corresponds to its non-vascular character.

In summing up the points of interest in this preparation, we

note the following. The uterine cavity (ten hours after delivery) measures 6 in. in length. The chorion and decidua have remained adherent to the uterine wall over a considerable area. If we had not these microscopic specimens, some one might have attributed this to the use of Credé's method of delivering the placenta, although the report says it was not had recourse to till half an hour after delivery, and that the placenta came away easily. Or it might have been attributed to the fact that labor occurred at the seventh month, although there is no evident reason why the membranes should separate with greater difficulty then than at the ninth month. These microscopic preparations, however, give us an intelligible reason why the decidua should not have separated here as easily as in a normal case, seeing that that membrane has been the seat of inflammatory changes attended with hæmorrhage. As to the cause of this inflammatory condition in the decidua, we have no data to reason upon. The hæmorrhages are of too long standing to have arisen since the eclampsia developed (28 hours before death), and there is no history of symptoms before this which throw light on the case.—*Edinb. Med. Jour.*

41. FARADIC Electricity in Rigidity of Os Uteri During Labor. DR. MARY PUTNAM JACOBI.—A primipara was brought during a premature labor, occurring at seven months of pregnancy, to the N.Y. Infirmary in a state of considerable exhaustion resulting from the prolonged labor-pains. The external os was tetanically rigid. I did not see the patient until after she had been for some time in the hospital, and the physicians in charge, Drs. Blackwell and Cushier, had used all the most usual and approved means of relaxing the rigidity of the os, but without the slightest effect. Even chloroform had failed, and the increasing exhaustion of the patient rendered this method hazardous to be persisted in. It seemed to me that the tetanized condition of the os, which would barely admit the tip of a finger, and resisted manual dilatation to an extraordinary degree, was precisely due to the exhaustion of the nerve force destined to the uterine fibre. The tetanus would then be analogous to the intestinal cramps of lead colic; to those induced in both the rectum and the genital canal by compression of the aorta (in rabbits), or, on an even more general scale, to the universal muscular contractions of rigor mortis. If this were true—and surely the clinical history of cases of rigid os uteri tends to support the hypothesis—local stimulation of the exhausted nerve fibres was indicated as the remedy. A small electrode was applied to the os, and connected with a faradic battery, the other electrode being held in the patient's hand. It was considered desirable to avoid passing the current through the body of the uterus, lest new contractions should be excited and struggle in vain against an impassable resistance. The application was continued for fifteen minutes. Immediately afterwards, and for the first

time, Dr. Cushier succeeded in inserting a finger into the cervical canal, and after some other effort, in gradually effecting manual dilatation and delivering the patient with the forceps.

Stimulus to the nerve fibres thus seemed to have succeeded in inhibiting the spasm into which the muscular fibre had been thrown, as is habitual when left to its own irritability.—*American Journal of Obstetrics.*

42. PREVENTION of Mammary Abscess. DR. A. W. EDIS.—It being believed that friction of any kind, in the large majority of cases, rather tended to produce than prevent mammary abscess it was long since discarded. The application of a long strip of belladonna plaster, sixteen or eighteen inches long and six or eight inches deep, with round apertures, so as to leave the nipples free, tightly across the chest, the breasts being brought well up towards the median line, for many years was the only resource adopted, beyond careful regulation of the diet, abstention from fluids, gentle purgation, etc. This method never failed, but it was often found that the smell of the belladonna produced so much nausea in delicate patients as to preclude the employment of it. Thinking that, in all probability, the pressure exerted, contributed greatly to the advantage derived, I was induced to rely upon a few turns of a rib-bandage, or the application of a thin towel or diaper across the chest, the breasts being brought well towards the sternum. Since adopting this method, I have never known it fail. Not a single instance of mammary abscess has occurred in a long series of cases, extending over several years. The only precaution requisite is to apply the pressure on the second day following parturition, before the breasts begin to fill, and to see that the whole of the glands are included.

It is well to elevate the shoulders somewhat more than usual, and not to allow the bed-clothes to cover the upper part of the chest, the sheet alone sufficing to prevent any risk of chill. Restriction as to the amount of fluid, for the first few days, and attention to the bowels, are all that is requisite to insure success. Some little inconvenience, a feeling of tightness or burning pain, is often experienced; but if the pressure be maintained, no harm results, and within the course of a few days, the turgescence subsides, and the difficulty is at an end. In order to keep the bandage or towel from slipping down, a shoulder strap from back to front, or merely pinning the bandage to the night-dress, suffices. Where the secretion of milk seems to be unusually abundant, a mixture of bromide and iodide of potassium may be prescribed with benefit. In only a few instances has it been found requisite to draw of a small quantity of milk, by means of a breast-bump or exhausted soda-water bottle, and this only once or twice.

I venture to think these remarks may prove of value to many, as I not unfrequently see instances of mammary abscesses brought

on, I verily believe, by the old-fashioned method of rubbing and irritating the breasts.—*British Medical Journal*.

43. COCAINE in Post-partum Neuralgia. DR. E. M. HALE.—The item on cocaine in cracked nipples leads me to report two cases showing the wonderful curative action of *cocaine in neuralgia of the neck of the bladder*. I make use of the term "curative" to distinguish it from palliative, for it has been supposed that cocaine acted only as a palliative in pain.

Case 1.—A primipara, delivered with forceps. Catheter had to be used three times a day. On the fourth day was attacked with agonizing pain in neck of bladder; constant urging to urinate, violent straining with only a few drops emitted, with horrible burning pains. Cantharis was given—ought to have benefited, but did not. I injected twenty drops of a two-per-cent solution into the urethra, and held it there for a few minutes; arrest of pain immediately, nor did she have any return of the paroxysms!

Case 2.—A primipara, aged 30, in whom I expected a long and difficult labor; was only sick two hours before I could get to her; only a nurse present. Urinated freely several times a day for four days without pain. Was attacked on the morning of the fifth day with paroxysm such as described above. Prescribed triticum repens and hot water to the vulva. After five hours no relief whatever. Injected twenty drops two-per-cent cocaine as far as the neck of the bladder. Almost immediate relief of pain. No return of pain, or the slightest difficulty in urinating. A case of severe sciatica of several months' duration has been reported cured permanently by one injection "deep over the sciatic foramen" of 15 drops of 4 per cent. solution. Truly cocaine is a wonderful drug. Its uses as a palliative and curative agent in certain neuralgias are almost unbounded. It will arrest the vomiting of pregnant women better than any other remedy (in tablets of one-tenth grain before meals).—*Med. Era*.

44. "RETENTION of the Liquor Amnii, as a Cause of Difficult Labor." DR. T. GRISWOLD COMSTOCK.—Let us suppose a hypothetical case of natural labor, in a primipara:—Upon examination by abdominal palpation, and by the *touch*, a head presentation is diagnosticated. There is, however, an unusual distension of the membranes, indicating a large quantity of liquor amnii; a careful digital examination, the index finger pressing against the water bag, shows that the membranes are tough, firm and probably thickened; the pains are vigorous and frequent, but recurring with normal intervals of rest between them, but all of them, withal, exhibiting the character of real "grinding pains."

The labor has so far progressed, that with every pain it would seem as if the bag of waters would spontaneously break, and the attendant now thinks they should be ruptured, when, suddenly

without any apparent cause, the pains cease entirely. The practitioner waits expectantly a few minutes, looking for the recurrence of the pains, but they do not return; the patient, although uneasy and restless, exhibits no signs of any return of her labor pains, and the medical attendant is beginning to be impressed with the fact that he has a case of inertia or, perhaps, paresis of the uterus. This paresis is clearly due to over-distention, and if the obstetrict is a surgeon, probably he will call to mind some case of vesical paralysis that he has had in his practice in former years, that arose from retention of the urine in the bladder, and which was an over-distention of the bladder. His treatment in the last named case, was the introduction of the catheter and evacuating the bladder. Governed by reason, from experience, the physician will relatively adopt a similar treatment in the obstetrical case in question: His procedure will now be, to rupture the membranes, and, as soon as the waters flow away, the head will come down, and by this means the muscular contractions of the uterus will begin to be displayed, and the normal progress of the labor will again go on unimpeded, as the first stage of the labor is now terminated. Nevertheless, caution is necessary in this simple operation, because, if the liquor amnii be discharged suddenly, the violent gush of the fluid may derange the position of the child, or bring down the funis into the vagina. The safer plan would be to puncture the membranes within the os uteri as high as you can reach, so that the liquor amnii can escape gradually. This may be done with the elastic catheter. When the uterus is thus relieved, the pain increases in strength and frequency, so that labor gradually proceeds rapidly to its conclusion."

The writer favors the timely use of the forceps, but as a preliminary to their application, and before any attempt is made to introduce them, the membranes must have been ruptured, and the cervix well retracted over the child's head. All authorities agree in this; but I will only quote Playfair, who says, as a preliminary to the application of the forceps, "First, the membranes must of course be ruptured." In a large experience in these peculiar cases, where from over-distension the uterus has become suddenly paralyzed, we have almost always found after rupturing the bag of waters, with scarcely an exception (if the mother was not exhausted), that the uterus would act with such renewed energy, that the forceps were not needed.—*Ibid.*

45. CRAMP of the Uterus During Labor.—Dr. SVANBERG uses the following preparation for relieving cramp of the uterus during parturition. He employs a compress, soaked in a mixture of chloroform and olive-oil, equal parts of each, or two parts of chloroform to one of oil, applied closely to the abdomen, between the umbilicus and the symphysis pubis. He has found

the result to be immediate relief of the spasm, even when the previous inhalation of chloroform had failed.—*Deutsche Med. Wochensh.*

46. PUERPERAL Eclampsia—Hot Baths.—BREUS reports that he has continued his experiments in the use of hot baths as a remedy for puerperal convulsions, and has now treated seventeen patients by that method with only one death. If there is albuminuria, that, too, is favorably affected by the baths. He first puts the patient into a bath of about 100° F., and gradually carries the temperature up to 104° or 106° . He has not found that either abortion or hæmorrhage is favored by the treatment.—*Arch. Gynak.*

47. CIMICIFUGA, Influence of, upon Parturition.—DR. KNOX (Chicago Gynæcological Society), gave the results of his clinical observations in one hundred and sixty cases of labor,—fifty seven primiparæ, ninety-three multiparæ—in which black cohosh had been exhibited. The average duration of the first and second stages of labor, in normal cases, in primiparæ, was seventeen and three hours respectively. Under the influence of black cohosh, the duration of the first and second stages of labor, in the fifty-seven cases observed, was six and one quarter and one and three quarters hours respectively. The average duration of the first and second stages, in normal cases, in multiparæ, was twelve and one hours respectively. Under the influence of black cohosh, in the ninety-three cases observed, the average duration of the first and second stages was three hours and twenty-seven minutes respectively.

From these clinical observations Dr. Knox drew the following conclusions :

1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability, nausea, pruritus, and insomnia, so common in the last six weeks of pregnancy ; it always renders them less distressing, and they often disappear under its administration.

2. Cimicifuga has a positive antispasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. Cimicifuga relaxes uterine muscular fibre, and the soft part of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery.

It is his habit, however, to administer fifteen to thirty minims of the fluid extract of ergot after the birth of the foetal head. and he has had but few opportunities of testing this effect of the cohosh. His method of administration has been to give fifteen minims of the fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement. One fluid ounce of the fluid extract of cimicifuga to three fluid ounces of compound syrup of sarsaparilla—dose, one teaspoonful—makes just the required quantity.—*Jour. Am. Med. Ass.*

48. *DYSTOCIA from Rigor Mortis in the Fetus.* B. JONES, Leigh, Lancashire.—“The following case is one of great rarity. Previously to its occurrence, I had never heard of a similar condition, and none of the books I had at hand made any mention of this state in the foetus. Dr. Robert Barnes, however, to whom I communicated the case, has very kindly informed me that he has, in his *System of Obstetrics* (vol. ii, p. 578), made reference to this condition, and to its effect upon the labor, as follows: ‘Deaths or impending death of the foetus.’”

“On the 30th of September last, I was called to a woman in labor of her tenth child by the midwife in attendance, who had been with her patient for several hours, during which the pains had been frequent, and the labor had progressed, although slowly, until the head reached the outlet of the pelvis, when it became arrested. As it had been in this position for an hour and a half, on my arrival, I at once applied the forceps, and brought down the head without much difficulty; as soon as the greatest diameter of the head had passed the outlet, and the occiput was external to the vulva, I removed the forceps, expecting that another pain would bring the head, but it remained stationary for some time, although the maternal resistance was overcome, and required several very strong pains, assisted by considerable manipulation, before the whole head was born, and I anticipated the necessity of having again to apply the forceps.

“After the head was delivered, there was again considerable difficulty attending the birth of the rest of the body. When traction was applied, a dense feeling of resistance was encountered, which suggested that we had to do either with the case of malformation or some morbid state of the foetus. As careful examination failed to reveal anything to account for the difficulty, greater force was used; and, after considerable and continued traction, the shoulders and the rest of the body were extruded; and it was seen that the whole of the foetus was stiff and rigid, with the knees flexed, and in one or two places slight desquamation of the cuticle, from commencing putrefaction.

“On a detailed examination, the following condition of the foetus

was discovered. The lower extremities were perfectly rigid and semi-flexed, the muscles of the abdomen and back in the same condition as to rigidity. The arms were movable, though stiffly, but the muscles hard and indurated. The neck and spine, to about the fourth dorsal vertebra were indurated, but could be moved at this point as a hinge. The muscles of the head and face were also stiff and rigid, and the cause of the dystocia had evidently been here, the body not being able to adapt itself to the curves of the passages until the death-stiffening had been overcome. The condition of the child thirty hours after birth, was identical with the preceding description, except that the whole body was somewhat more flabby.

There can, I think, be no doubt that this was a case of true rigor mortis, and its rarity is sufficient excuse for recording it, though one may wonder whether this condition may not be sometimes overlooked, as such condition in a stillborn child does not seem a very remote probability."—*British Med. Jour.*

49. INDUCTION of Premature Labor by Electricity.—Dr. J. SYROMATNIKOV, writing in the *Vratch*, on the induction of premature labor by means of electricity, mentions three methods; the external, where one electrode is placed on the sacral region, and the other over the uterus; the internal in which both electrodes are introduced *per vaginam*; and the combined, where both the former methods are made use of. In principle, the author prefers the internal method, but, in the case which he gives, he made use of both external and internal methods. The patient was twenty-six years of age, and had a contracted pelvis. He proceeded, in the thirty-seventh week, to bring on labor by the use of the primary coil of a Sparker's induction apparatus, with a single element. This produced pains in an hour's time; during the next few days the electricity was employed for ten minutes at a time, twice daily. Within a week, the os uteri was sufficiently dilated to permit of the introduction of the No. 1 size of Barnes's bags. Podalic version was performed, and a living healthy child extracted. The patient recovered satisfactorily. The author thinks faradization is but seldom used for the induction of labor, but he mentions three cases previous to his own, two by Gruenwaldt, and one by Tipyakoff.—*Med. Press.*

50. BROMIDE of Ethyl as an Anæsthetic in Labor.—Dr. MONTGOMERY, reviewing the various anæsthetics, said chloroform is objectionable, in that it causes inertia-uteri and tedious labor, and increases the danger of post-partum hæmorrhage. The relatively infrequent fatal cases under its use in surgical practice, and the still more rarely serious results from its use in obstetrics, forbid its habitual use. The use of ether in natural labor is infrequent, because to relieve pain the patient must be

profoundly etherized. Partial etherization but destroys the ability to bear pain without obtunding sensation. Besides, Tait has demonstrated that ether passes rapidly into the circulation of the foetus, endangering its existence. The mixture of nitrous oxide and air, advocated by Klikowitsch, requires a special apparatus, and is unwieldy. The ideal anæsthetic is one that is safe for mother and child, certain in its effects, rapid in relieving pain without producing loss of consciousness, and whose effects pass off quickly. All these demands are met by the bromide of ethyl. He enumerated a hundred and twelve cases in which it had been used, twenty-nine of which were in his own practice; none of the mothers died, and but three of the children. In none of the latter could death be attributed to its use. It was administered during the second stage of labor, by placing a napkin, wet with a few drops of the ethyl, over the face of the patient, at the advent of each pain, and withdrawing it as the pain subsided. Unless a dram was used, the sensation of pain was obtunded without arresting consciousness. The process of labor was carried forward vigorously and quietly, the patient ready to exert or withhold voluntary aid as her attendant might direct; and the expulsion of the head was attended by no greater pain than accompanies the evacuation of obstinately constipated bowels. His experience did not lead him to believe that its use would induce inertia-uteri, or increase the tendency to post-partum hæmorrhage.—*Medical Journal*.

51. *AN Obstetric Anomaly*.—DR. R. W. GRISWOLD was called to attend M. W., in her first confinement, she being about eighteen years old, and at term with an illegitimate child. My first examination disclosed head presentation, without any thing unusual. Examining again at the end of an hour, the middle finger being thrust well into the hollow of the sacrum, the end of it slipped into at what first seemed to be a hole running backward towards the rectum. Curving the end of the finger downward, and thus flexing it towards the hollow of the hand, I found that the hole came out at the extreme entrance of the vagina, thus forming a supplementary entrance to the vaginal canal. This supplementary entrance was at the posterior part of the vagina, and when undistended, lay directly back upon the rectal wall. It was about one and a half inches deep, large enough to admit the finger readily without any effort at stretching it, and was sufficiently elastic to admit a good sized male organ. It was apparently of the same character of muscular tissue as the walls of the canal; was attached on one side to the main canal at near the middle of the sacral wall; and at the other side on the left aspect of the canal at a distance of about one-third of the caliber of the passage. The size was say $1\frac{1}{2}$ inches in depth, one inch in breadth, and about three-sixteenths of an inch in thickness.

My first impression of the action likely to take place with this superfluous tissue, in the progress of the labor, was that it would remain laid down upon the posterior side and floor of the vagina, and that the face of the child would pass over it and hold it down in the position it occupied at the commencement of delivery. But as the canal became more extended by the descent of the head, this hymeneal membrane became lengthened in the direction of its attachments and very much shortened in what I have called its depth, by being picked up by the descending head. This was accomplished gradually; and finally, what was at first a mere fold at the posterior part of the canal, became a cord stretched across the foetal skull from the anterior aspect of the vagina to the posterior, dividing the passage into two unequal parts, of about one-third on one side to two-thirds on the other.

How much obstacle to the passage of the head this might have offered, if left alone, I do not know. It had to be divided either by forcible interference or the strength of the parturient effort; and as there was no good in waiting for the latter result, I gradually tore it in two at about its middle. The tearing was preferred to cutting, as less likely to result in troublesome hæmorrhage and as also dispensing with what might have been called an "operation." The patient knew nothing of anything unusual.

As for interference of this membrane with copulation, I should say that it was not at all in the way, and that the intruding organ passed over it without disturbance to either party.—*Med. World.*

52. HÆMORRHAGE from a Wound of the Cervix Uteri, simulating an impending abortion.—DR. MCKEOUGH related a case of a woman who had had two previous miscarriages, and who, he supposed, was threatened with another. The patient was between three and four months pregnant, complained of some pain in the pelvis, which, however, was not intermittent, and, judging from the condition of her clothes and bed, there had been considerable loss of blood. Pulse was quick and feeble. Her countenance was pale and anxious. Numerous clots were removed from the vagina, which was afterwards tamponed with pledgets of cotton-wool soaked in boro-glyceride. The following day the patient admitted that she had attempted to produce an abortion by violence, a large knitting-needle and a catheter being the implements used. After the tampon was removed, an examination of the cervix was made, and revealed an old bilateral laceration. In the posterior everted lip was a recent deep, ragged wound, to which a clot was attached. Its removal caused a fresh spurt of blood, which was controlled by pressure. This occurred six weeks ago, and there have been no symptoms since of a premature expulsion of the fœtus.—*Canada Med. and Surg. Journal.*

53. HÆMORRHAGE from the sac of a Spina Bifida, resembling symptoms of Placenta Prævia.—DR. TYE reported a case of a woman to whom he was called recently, and found in labor; pains were coming regularly, and with each contraction of the uterus there was quite a profuse gush of blood. The accouchement had commenced with the escape of a very large quantity of water, which was immediately followed by the loss of a considerable amount of blood. The os was not sufficiently dilated to make a diagnosis positive, but the doctor thought it might be a case of placenta prævia. As labor progressed and the os dilated, an acephalous monster was diagnosed. The foetus, on being expelled, was found, besides being acephalous and having rudimentary genital organs, to have a large spina bifida, extending from the neck to the sacrum, the sac being ruptured. To the spinal openings large clots of blood were attached, and over the interior of the sac small clots also adhered. The placenta came away in half an hour with a very moderate amount of hæmorrhage. The child was exsanguine, but the mother showed no symptoms of loss of blood.—*Ibid.*

54. SHOULDER Presentations, management of the. DR. E. F. WELLS.—I recently was called to see a woman, aged 44 years, three days in labor with her thirteenth child. She was a well formed woman and had passed through the period of her pregnancy to full term, with no symptoms of any importance. When I arrived I found the cord prolapsed and the left shoulder presenting at the pelvic brim. The os was fully dilated, and the amniotic fluid had long since drained away. The woman had become restless and irritable, was a little feverish, and the vagina and os uteri were swollen, dry, hot, and painful.

The cord was pulseless, but was warm and moist, and the midwife informed me that it had been pulsating only a short time before. I determined, therefore, to replace the cord before proceeding to turn, and to facilitate this I placed the patient in the knee-chest position. The cord was then easily replaced well up in the uterine cavity. In doing this I was astonished at the facility with which I passed my hand by, and the mobility of the previously firmly wedged-in shoulder; and, pursuing the investigation further, I found that I could readily push up the shoulder, and, by external manipulation, bring down the head, which was done. Maintaining the parts in this position, I directed the patient to rise upright on her knees, and soon had the satisfaction of knowing that the pains were engaging the head in the superior strait. A dose of ergot was administered, the woman placed in a more comfortable position, and the labor was soon terminated in a natural manner, the child being dead. The mother recovered without any trouble whatever.

In this connection, I wish to call attention to the old, but long

neglected plan of placing the woman in the "knee-chest" position when about to perform version in cross presentations. In this position the operator has the aid of gravity in relieving the downward pressure upon the pelvic brim, thereby facilitating the passage of the hand into the uterus and of the subsequent manipulations, and, I conceive, tending to prevent the unfortunate accident of rupture of the uterus. I feel confident, also, that cephalic version will be found perfectly feasible in many cases in which podalic version would be the only alternative with the woman in the ordinary position. Another advantage is, that the pains are much less powerful and effective when the uterus is suspended than when it is lying upon the spine and pelvis. I should very much like to see this method of dealing with these difficult cases given a fair and impartial trial by accoucheurs, and the results laid before the profession for future guidance.—*Jour. Am. Med. Ass.*

55. WHEN Should Menstruation Cease?—DR. HUGHES, in the *Medical Age*, calculates the time when the menopause is due in the following manner :

Commencing with the propositions : First, that the allowance of years to mankind is "three score and ten." Second, that a woman is capable of child-bearing for half her life after she arrives at puberty. Now find out at what age menstruation began in any particular case, subtract this from seventy, and divide by two, the result is the number of child-bearing years : add this to the age at which menstruation began and it will give the age at which it should cease. For instance :

Years of life.....	70
Menstruation began at.....	16
	—
	54
	—
Half of which is.....	27
(The child-bearing period).	
Add the commencing age.....	16
	—
Giving age at which it ceases.....	43

Bearing in mind the facts that those who begin early, cease early, and those who begin late, cease late, we should have the following table :

Beginning at	12	ceases at	41	
"	"	14	"	42
"	"	16	"	43
"	"	18	"	44
"	"	20	"	45

Although this table has been found correct, allowance must be made for causes producing variations ; it is not set forth as

infallible, but it will be found to "hit" nine times out of ten. It is doubtful if any trace of the idea will be found in works bearing on the subject, and it is believed to be original with the writer.

58. CAUSES of Tardy First Stage of Labor, and their Treatment. BY ELLIOT RICHARDSON, M.D.—The peculiarity of the first stage of the labor, which in all its important bearings upon the welfare of the woman and foetus widely distinguish it from the second stage, is that so long as the membranes are intact, the relations of the two beings to each other are precisely the same as those existing during the course of gestation, so that almost indefinite delay is perfectly consistent with the entire safety of both. Notwithstanding this fact the first stage of labor is often a period of great danger to both. The danger to the mother is from exhaustion, and exceptionally from rupture of the uterus; that of the foetus is from asphyxia, due to the frequent or too powerful uterine contractions. The mother will only become exhausted when the pains become so frequent, so violent, or so long-continued that she is not able to restore her strength from time to time by sleep and perfect rest between the pains. The same condition with regard to the nature of the pains, early rupture of the membranes, and probably some abnormal state of the tissues of the uterus are essential to the production of rupture of that organ. The risk to the foetus is due to the same condition of the uterine contractions as those which impair the mother's strength, in which the time intervening between the pains is not sufficient for the removal of the vitiated blood from the maternal part of the placental circulation and the supply of arterial blood in its place.

In considering the relations of the woman and foetus to each other, and the nature of the dangers which threaten each in the first stage of labor, the indications for treatment might seem to be obvious. They are to preserve the proper strength and rhythm of the uterine contractions in order to secure needed rest to the mother, and sufficient regularity in the placental circulation to supply the foetus with enough oxygen for its preservation. When, therefore, it is obvious that from any cause the dilatation of the os-uteri must be a prolonged process, we should take care to protect both the woman and the foetus from danger during its progress. Even weak uterine contraction may, by becoming nearly continuous, produce the dangers already alluded to, and so while endeavoring to strengthen them, care must be used to preserve their rhythm. In the cases which I have reported this principle was adopted in treatment. Nothing was done until the pains became abnormal in character, when the measures already detailed were instituted. In both cases morphia was used by the mouth; in one case inhalations of chloroform, in the other of ether, were used in conjunction with the opiate. In view of recent experiment

there can be no doubt that ether is the safer remedy of the two, and yet it possesses so many disadvantages when compared with chloroform, and the risk from the latter when carefully used in these cases and in conjunction with the use of opium in some form is so slight, that it is a question in my mind whether we are not often justified in using chloroform in preference.

During the first stage of labor, if no painful operation is to be performed, it is not necessary nor even desirable to produce entire unconsciousness. The anæsthetic is given to mitigate pain, not to entirely destroy the consciousness of it, and at the same time to prevent both mental and uterine irritability. Opium and chloroform supplement each other to a great extent, so that when the effects of the two are combined a much smaller dose of each is required to produce a given effect than when either is used alone. This is not so with opium and ether, or to so slight an extent as to be almost inappreciable. While in a woman in labor who is under the moderate influence of opium, but a small amount of chloroform administered by inhalation is sufficient to give all the relief from pain needed; the quantity of ether to be used to produce the same beneficial effect will not be found to be less than when no opium has been given. The practical result of this relation of the remedies to each other is that in the former case the patient's suffering is relieved at once, while in the latter some time is required before any decided amelioration is experienced. In comparing the effects of chloroform and ether in the first stage of labor, the former has, I believe, a decided advantage in its effects upon the os uteri, in promoting relaxation. All the advantages attached to it are at the same time coupled with its easy and pleasant administration. Against these, however, must be offset the danger from its use. Exactly how great this danger may be in careful hands, cannot be told. In many cases of fatal chloroform poisoning it has been the first few drops that have killed; in such cases, therefore, the diminished amount rendered necessary by the morphia previously given would be no safeguard. I believe, however, that the danger is so infinitely small when thus given that we are justified in using it in painful cases of labor, especially when the chief difficulty lies in the rigid condition of the cervix or other soft parts of the parturient canal, and that in such cases the use of morphia either by the mouth or hypodermically in moderate doses greatly facilitates accomplishment of the end in view. At the same time I would not be understood as advising the use of chloroform instead of ether in ordinary cases of painful labor. Since in these the only object is to relieve pain, ether answers the purpose, and being the safer remedy, should be preferred.

Another cause of tardy first stage of labor is *premature rupture of the membranes*. This accident is apt to interfere with the progress of labor in the stage of dilatation by the absence of the

dilating cone formed by the membranes in normal cases and by direct contact of the presenting part of the fœtus with the uterus. Owing to the former the uterine force is exerted at a disadvantage, and by the latter the os is apt to become rigid, dry and sensitive, while the mother's suffering is much increased. The fœtus is exposed to exceptional risk when obliged to pass through the entire stage of dilatation of the os without the protection of the liquor amnii, for not only are its parts subjected to injurious pressure, but owing to the much greater degree to which the uterus can contract, the interruption of the supply of maternal blood to the placenta is much more complete; yet it is possible for the fœtus to retain perfect vitality for many days after the escape of the liquor amnii. The sources of the aqueous flow which may be mistaken for the liquor amnii are numerous. The spontaneous escape of urine is not infrequently mistaken by the patient for that of the liquor amnii, while the flow of profuse secretions of Cowper's glands; the rupture of a cyst of the chorion; of another developed or undeveloped ovum; of a cyst lying between the chorion and the amnion, may prove the source of the supposed liquor amnii.

That the membranes may again close after having been ruptured has been proven. This is not accomplished by a process of healing, as was at one time supposed, but by the sliding of the different layers, of which the membranes are composed, upon each other, by which a small opening may be effectually closed. After closure of the amniotic cavity in the manner described, the liquor amnii again collects, for this fluid is continually secreted, as first shown by Winkler, and demonstrated in Mathews Duncan's case.

A source of error in diagnosis as to the origin of the flow is in rupture of the membranes at a point within the borders of the os and out of reach of the examining finger. Here vaginal examination shows the presence of the membranes closing the os, and which become tense during the pains, while the opening becomes patulous and admits of the escape of the liquor amnii during the periods of relaxation. The usual result of the escape of the waters at whatever period of gestation it may occur, is to precipitate immediate labor, and this labor is unusually distressing to the mother, and at the same time subjects the fœtus to increased risks. We have seen that the peril to the fœtus is due solely to the persistence or the frequency and violence of the pains, interrupting too frequently, too persistently, or too completely the supply of maternal blood to the placenta.

The abnormal pains are not alone due to the irritation of the mouth of the uterus by the direct contact of the fœtal parts with the uterus, but also to the mental condition of the woman. Most women view the occurrence of rupture of the membranes at the beginning of labor with anxiety and alarm, and such a state of

mind is very apt to be reflected injuriously upon the action of the uterine muscles. Hence care is necessary in the conduct of such labors, first of all to reassure the patient, then to enjoin rest as soon as the pains come on, and, if they are at all disposed to assume an abnormal character, to keep the woman constantly in bed and give opiates to control the severity of the pains, to preserve the proper rhythm of the contractions, and to favor dilatation of the os.

Before closing this paper I wish to refer to another, though kindred, subject. I allude to the obscure symptoms sometimes occasioned in the parturient woman by the presence of intercurrent acute disease. I have several times been deceived by symptoms due to the malarial poison becoming manifest during labor, or in the lying in period, which have in the one case closely simulated approaching exhaustion, and in the other acute local inflammation. Sometimes the manifestations of the presence of this poison consist of chills, followed by fever, while in other cases there is more or less severe neuralgic pain alone. When the previous history of the patient has been obtained, and such history shows the presence of the malarial poison, the diagnosis of the true nature of the symptoms is not difficult, but it is so when no evidence of previous symptoms of intermittent fever is attainable.

57. IMPORTANT Factor in Face Presentations. DR. W. H. OLSEN.—Face presentations are not common, and yet every practitioner, actively engaged in his profession must occasionally meet them. Some medical authorities hold that face presentations are cases of unnatural labor and usually demand prompt interference, while others assert that they are cases of natural and easy labor and require no assistance.

It is asserted by writers on obstetrics that all face presentations take place with no greater difficulty than in an ordinary cranial position, and that they indicate a strong analogy which exists between them and the ordinary positions of the cranium.

My experience compels me to differ from them entirely, and I hold that a face presentation is much more difficult and much more dangerous than an ordinary cranial position, and that there is no more analogy between a face and vertex presentation, either in mechanism or in any other respect, than there is between a trunk presentation and an ordinary cranial position.

A few weeks ago I was summoned to a woman who had been in difficult labor for twenty-four hours. The patient was a powerful woman of uncommon strength and muscular development, possessing also a capacious pelvis. The midwife in attendance was exceedingly apprehensive as to the result. Upon examination I found the child offering by its face, the chin directed to the left ischiatic plane. It was a fair typical case of face presentation. As the woman had been in labor for twenty-

four hours, I concluded to apply the forceps, but after several unsuccessful efforts I abandoned the attempt, as I could not secure the parallel line between the blades so as to accomplish the locking of the branches safely. The woman's condition was yet good, and the case appeared most favorable. I decided therefore to wait and give nature a longer trial. Twelve hours later I found the face precisely where I left it, the chin had descended perhaps an inch along the plane of the ischium, but not a particle had it advanced toward the pubis; and this in spite of the most tremendous uterine and voluntary efforts, frequently repeated. The woman was becoming rapidly maniacal as a result of her immense, but absolutely futile struggles. Again I applied the forceps, and again met with the same difficulty, and again abandoned the attempt.

The question now arose in my mind, why does the chin not come to the symphysis pubis and the labor terminate spontaneously? The pelvis is of ample size, face fairly presenting, forces are immense, and yet nature has failed after thirty-six hours of violent labor to accomplish delivery.

Suddenly and without warning the illumination of this problem came to me, and with the most perfect faith I followed the leading which the new light revealed to me. The revelation was this: the child's chin does not come to the front because it can descend only an inch and a half into the pelvic cavity; if it could but reach the floor of the pelvis, then it would at once have impressed upon it a powerful force of resistance, in consequence of the immense parturient efforts, and anterior rotation would be speedily accomplished. But it cannot reach the pelvis floor to secure this essential point in order to accomplish rotation, and again the question arose in my mind, why not then apply a force of resistance, and thus artificially furnish the essential point.

I determined to apply a blade of the forceps on the posterior cheek. It was not my intention in doing so to attempt to force a rotation of the chin. I merely held the blade firmly against the side of the face in order to ascertain whether my reasoning was correct.

To my great astonishment, this face, which had been so immovable for thirty-six hours, not slowly, not after the lapse of some minutes, but almost instantly responded, the chin sweeping across the plane of the ischium, slipped under the arch of the pubis, and in less than five minutes the youngster was born, much to my relief and joy to his mother.—*Medical World*.

58. RETARDED Labor, a Case of. DR. W. ROBSON.—On Oct. 2nd, about 10.30 p.m., I was sent for by a midwife to see Mrs. B., a multipara. I was informed that she had been in labor since 6 a.m., and that her pains were not sufficiently strong to expel the child. I at once made an examination and found

the labia very oedematous, with part of the vertex to be seen by slightly separating them. The patient had some years previously undergone amputation of the right thigh, and consequently her voluntary efforts of expulsion were greatly impaired. I waited about a quarter of an hour to see what course matters would take. Seeing that no progress was being made I applied the forceps, thinking that slight traction would be sufficient, but such was not the case, for although the vertex was born, each time I relieved traction the head receded. After a few minutes I felt something give away, and on passing my fingers up past the head I felt a rent in the throat, and concluded that the cervical vertebræ must have separated. My fears were verified, for in a minute or two the head became detached, which, on inspection, showed signs of decomposition. I next proceeded to turn, but soon changed my mind, choosing rather to hook my fingers through the child's axillæ, and again make traction.

After much trouble, fracturing one of the arms in the attempt, I managed to extract the child. It was of a dark liver color, the epidermis peeling off extensively, and the abdomen, the cause of all the delay and difficulty, was hugely distended by gases due to decomposition. The placenta was very extensively diseased, to the fatty degeneration of which the death of the fœtus was no doubt owing. The placenta was retained, and had to be carefully peeled off the uterine walls. There was no post-partum hæmorrhage, and she made an uninterrupted recovery. Among my medical friends I have only heard of one such case as the above, where the head became detached owing to decomposition, the abdomen of the fœtus being distended to such an extent as to interfere with its extraction. Even if the case were diagnosed early, I think podalic version would be inadmissible, because in turning so large and awkward a body rupture of the uterus might be the result.—*Medical Press*.

59. ANTISEPSIS in Obstetrics.—In a recent monograph by C. FURST (*Die Antisepsis bei Schwangeren, Gebärenden u. Wöchnerinnen*), the following conclusions are offered regarding injections of corrosive sublimate :

1. Large quantities of strong solutions must be avoided ; the prolonged action of such solutions, or the continuous irrigation of fresh wounds therewith being dangerous. The fluid used must be expelled as far as possible. Before such irrigation, the uterus should be first lifted, and then compressed (Fritsch). Subsequent injection with some other antiseptic solution is recommended (Tänzer).

2. Anæmia enhances the danger attending the use of both carbolic acid and corrosive sublimate.

3. Diminished renal activity constitutes a contraindication for the use of such injections ; and the state of the kidney in preg-

nancy probably conditions a marked predisposition to sublimate poisoning.

4. Especial caution is advised in high fever and septic diarrhœa.

5. The exit of the sublimate solution from the uterus through the Fallopian tube is especially dangerous.

60. MIDWIFERY Practice after Exposure to Sepsis.—The majority of competent observers no longer claim that it is necessary to quit attendance upon cases of labor after exposure to septic poison. It is held that through disinfection is all that is required for the safety of the patient. Dr. Angus MacDonald, of Edinburgh, emphasizes this—but makes his disinfection process very thorough, viz : complete change of clothing, hot bath, hands, face, beard and hair rubbed with turpentine, then with a solution of bichloride of mercury, after which he states there is absolutely no danger of carrying infection to the patient.—*Can. Lancet*.

61. INDUCTION of Premature Labor.—Dr. T. GAILLARD THOMAS recommends the following method for the induction of premature labor : The patient is placed across the bed, with the buttocks resting near the edge, and under her is arranged a large piece of rubber oil-cloth in such a way as to drain into a tub on the floor, into which is one or two gallons of water at a temperature of 98° F. The knees of the patient being properly supported, a syringe with a long nozzle is carried as far into the cervical canal as it will go, and a steady stream of water is directed against the membranes. When dilatation to the extent of a half-dollar is completed, which will be in the course of ten minutes, a gum catheter is inserted between the membranes and uterine walls, the patient is put to bed, and the labor allowed to proceed naturally. This operation Dr. Thomas says constitutes one of the greatest advances that has ever been made in the obstetric art, and that it is no mean triumph to be able thus to preserve a human life, which, without its aid, would have been inevitably lost, and adds he can point to two dozen children in New York City whose lives were saved by this operation.—*Physician and Surgeon*.

62. CASE of Quintuple Labor.—In the *Meditz. Obozrenie*, Dr. F. POLIAKOFF describes a rare case of quintuple labor which has lately taken place in the village Sarai, Sapojok district, Riazan Government. The patient, a peasant woman, aged 27, who had been married nine years and delivered six times (at full term, and each time of a single foetus), came to the Sapojok Zemsky Hospital in the beginning of February (about five months after her last catamenia) on account of enormous enlargement of her abdomen, which caused extreme difficulty in breathing and general weakness. On examination, the fundus of the oblong-

round uterus was found at the highest level of the epigastric region ; feeble foetal cardiac sounds were heard in the right hypochondrium ; there were felt some small foetal parts on the left of the linea alba. In view of the enormous size of the womb, plural pregnancy was suspected. On Feb. 28, in the evening, uterine contractions commenced ; and on March 1, at eight o'clock A.M., labor ensued. The patient was delivered of five female foetuses, which followed one another at the intervals of a few minutes, two of them being in pelvic, three in head, presentations. Each of them was enclosed in a separate sac (unruptured amnion). The first foetus (a monster) was dead ; the remaining four were alive, but died soon after rupturing their sacs. The placenta, which was single, and weighed 585 grammes, was squeezed out after Credé's method. There were five amnia and a single chorion, common to all ; the umbilical cords were attached along the margin of the placenta. Four of the foetuses were normally developed, their individual weight being about 590 grammes, and their size varying from 29 to 31 centimètres. The fifth measured 41 centimètres in length, weighed 934 grammes, and presented considerable anomalies (elephantiasis-like swelling of the integuments of the head, microcephalia, defective numbers of fingers and toes, etc). The umbilical cord of the monster contained only two vessels (one artery and one vein), while the cords of the remaining four foetuses consisted of three vessels.

63. EXTRA-UTERINE Foetation, with Rupture of the Sac. DR. BOLGER, in the *Dublin Medical Journal*.—Mrs. L., aged twenty-six, one child. The patient's illness commenced quite suddenly. About eight o'clock in the morning she felt severe pain in the hypogastrium. This caused extreme faintness, but she did not lose consciousness. When seen about two hours after this, she was still in a collapsed condition. Mrs. L. stated that she had last menstruated five weeks ago, and that before marriage she had experienced similar, though not so severe, pains during some of her periods. At next visit—about 3 P.M.—she had rallied considerably, the pain was not nearly so bad, the face had its usual color, she was warm and had a fair pulse. There had been several attacks of dyspnœa, but during none of these had she been seen either by the gentleman with whom I saw the case or by myself ; they were said to cause great distress. In addition she had had some vomiting, and from the first a strong impression that she would not recover. At about 8 P.M., when the next visit was made the patient was moribund, and died about 12 o'clock the same night. It was at the third visit that a diagnosis was made—viz., extra-uterine foetation, with rupture of the sac. This was confirmed by a *post mortem* examination.

On opening the abdomen the pelvis was found filled with blood, mostly fluid, but with some quantity of clot. In clearing this out

the ovum was removed on the sponge. The sac was found in the right tube, quite free from adhesion and of small size. The ovum appeared to be five weeks old.

Cases of extra-uterine pregnancy are fortunately rare, and many men of experience have never met with one. Sir Spencer Wells says: "With the exception of one case recorded by Mr. Cooke, etc., and another case recorded by Mr. Doran, etc., I am not sure that I have ever seen any variety of extra-uterine foetation either in my own practice or in consultation." It is rarer still for rupture to occur so early, and death to supervene so rapidly as in Mrs. L.'s case, and herein lies its chief interest. The difficulties in making a diagnosis were great, especially so to those who had never before to deal with the same conditions, for in an obscure case like this nothing can supply the place of experience, which alone will give confidence in arriving at a conclusion as to its nature. When the true state of affairs was realized it was quite plain that it was too late to do anything.

When Mrs. L. was taken ill she had no suspicion that she was pregnant, but was under the impression that her menstrual period was coming on. She conceived this idea because the pain was like that which she had formerly suffered at such times, and also because it was only five weeks since she was last unwell. This was the first obstacle to a clear reading of the case. Then, again, at the second visit her appearance did not denote a critical condition. No vaginal examination was made, and I do not see what help it could have given, for with an ovum free in the abdominal cavity and a ruptured sac of five weeks' growth, there would have been no tumor capable of being felt, nor would the presence of fluid blood in the pelvis be readily made out. At the third visit, however, the signs of internal bleeding were unmistakable, and it appeared certain, from the symptoms already related, that the abdomen was the seat of the hæmorrhage, and probable that a ruptured uterine foetation was the cause of it.

At the present day I think no one would deny that the diagnosis of such a case being clear, or even probable, the proper thing to do is to open the abdomen, clear out the blood and excise the sac. In a more advanced pregnancy it is necessary to suture the sac to the edges of the abdominal wound and allow the placenta to separate. This, I believe, is what Mr. Lawson Tait does. To render an abdominal section justifiable the patient must have at least a prospect of recovery, but when the gravity of Mrs. L.'s case became apparent she was so far gone that no one, I think, would operate under such circumstances, especially when the unavoidable delay which must occur before the operation could be commenced be taken into account. The lesson of this case is, that if any good is to be done an early diagnosis is of paramount importance.

64. INVERSION of the Uterus: Probable Cause, Tight Lacing. DR. J. E. DUNN.—*British Gyn. Journal.*—On Saturday, March 14, 1885, I was summoned to M. S., aged 35 years, single, primipara, by her father, who stated that the midwife had sent him asking for my immediate attendance. On my arrival I found the patient cold and clammy, but still perfectly conscious, pulse exceedingly weak; she had been delivered of a full-term living male child; the cord had been divided. On examination I found extruding from the vagina the placenta intact, and adherent to a pyriform mass, the size of a child's head. There had evidently been much hæmorrhage. I carefully peeled off the placenta, and before doing so I gave a drachm of ext. ergotæ liq. B. P., and half an ounce of brandy. The hæmorrhage had then ceased. Seeing that it was a case of inverted uterus, I proceeded at once to reduce it by firm and continuous pressure of the hand upwards and backwards in the direction of the pelvic curve. For eight minutes it did not offer to yield, but at the expiration of that time it gradually returned, and at the end of a quarter of an hour I succeeded in completely reducing it, so that I could feel the patent os uteri. I introduced my finger and found that the fundus was not at all inverted. The uterus then firmly contracted to the size of a cricket-ball, and a binder and pad were then applied. The patient still remained perfectly conscious; brandy and milk were administered *per rectum*, brandy and beef-tea by the mouth, and fifteen minims of sulphuric ether were injected subcutaneously.

At 9.45 A. M. the patient rallied considerably, and had the rites of the Catholic Church administered to her. As time rolled on she became unconscious, and at 10.5 A. M. she showed all the marked signs of shock. Examining her again I found the fundus of the uterus protruding through the os, and carefully replaced it, again injected brandy and beef-tea, and applied heat to the extremities and sides. At 10.45 A. M. the patient died. On examining her *per vaginam* after death, I found the uterus *in situ*, and its axis normal. Unfortunately the friends would not allow the abdomen to be opened. Family history good. Patient herself always strong and healthy. Own mother did not know of her state until three weeks prior to her confinement, owing to the fact that she laced herself indescribably tight, both night and day, in order to conceal her condition. The midwife, whom I know from experience to be always careful and reliable, informed me, and her statement is corroborated by the mother, that the patient slept up to 4.30 A. M., and at 5.30 A. M., the midwife was sent for and removed the stays, which were then tightly laced, and had been so all through the night. The pains were at first feeble, and she would not allow an examination until 7 A. M. The pains then increased in severity. The waters broke about 8 A. M., spontaneously, only a small quantity of liquor amnii

escaping. The pains increased up to 8.30 A. M., when the child was easily expelled. The division of the cord was performed, and before the child could be lifted away a large mass was expelled which both the mother and midwife "thought to be another child," inverted uterus with placenta attached. No binder was applied to the abdomen prior to delivery. The midwife assures me that there was no traction on the cord at all. I record this case, as I firmly believe it to be attributable to tight lacing.

INVERSION OF UTERUS—REDUCTION BY AVELING'S REPOSITOR.

A. N., æt. 24, was confined with her second child on September 25 last (1884), under the care of a midwife. According to the patient's statement, the midwife told her that "the child and after birth came away all right." She felt very well for about ten minutes after this birth; she then became very faint, and lost consciousness for several hours. The medical man who was called in on the occurrence of this condition, writes:—"She was delivered by a very careful and competent midwife, who described the whole labor as extremely easy and natural. I was sent for about an hour afterwards on account of post-partum hæmorrhage. On examining I immediately came on the projecting mass in the front wall of the vagina, but I pushed my hand and arm behind and above it into a large cavity filled with clot, which I cleared out, and then injected with perchlor. ferri. This stopped the bleeding, but it recurred once in serious amount during the time she remained here. She had been taking a good deal of ergot during the first month." The further history obtained from the patient is that for three weeks she had scarcely any discharge; then she had a copious flow for about a week, for which ice was used. After an interval of four weeks the period returned, the flow being very free, with many and large clots, and on the sixth day—viz, on November 24—she entered the Samaritan Free Hospital under my care. That night she had very free hæmorrhage. Next morning, after a copious hot douche, I examined her and had no difficulty in diagnosing inversion of the uterus. The patient was in a very anæmic condition and very weak, and, desiring to lose no time, in the afternoon of the same day I attempted to reduce the organ by taxis under chloroform. I could reduce the uterus almost within the os, but the fundus would not give way, and after what I deemed a fair attempt, I applied Aveling's Repositor and put her back into bed, not, however, without noticing that I had ruptured the mucous membrane of the recto-vaginal septum for about two inches longitudinally from the perineum by the introduction of the hand. Next morning the Repositor was removed, the vagina was washed out with a weak solution of iodine, and the uterus was found as before. The Repositor was reapplied for about eight hours. I then

thought it prudent to discontinue the effort at reduction until the vaginal tear had healed. So far there had been no constitutional disturbance. The vagina was washed out twice daily with the iodine solution. On the 30th I put her on tinct. fer. mur. P. E. (mx.) and extr. erg. liq. (mxx.) three times a day. The diet consisted of an abundance of milk with some farinaceous food.

On December 10, the vaginal rent having quite healed over, I invited my friend Dr. Aveling, who I knew took much interest in these cases, to see my patient. It had already occurred to me that the elastic bands supplied with the instrument were much too weak, though stretched to their utmost, and Dr. Aveling at once found the same fault with them. Stronger ones, about a quarter of an inch in width, were procured, and Dr. Aveling applied the instrument. Next morning the uterus was still unreduced, and after the vagina was well washed out with the iodine solution, the instrument was reapplied. About three hours afterwards the patient began to complain of pain, and the nurse administered $\frac{1}{6}$ gr. morphia subcutaneously. At five o'clock I found that the uterus had become reduced, and that the cup of the instrument was quite within the os, from the grasp of which it was relieved by a little manœuvring. After its removal the uterine cavity was well washed out with the iodine solution.

The patient returned home on the fifteenth, feeling wonderfully well, and complaining of nothing. The uterine cavity measured $2\frac{1}{2}$ to $2\frac{3}{4}$ inches.

This case calls for but few remarks.

There is no evidence that the accident was due to any act of the midwife. I think we must assume that the flooding was the result of the inversion, and that the doctor was mistaken in imagining that his hand had entered the uterine cavity; for he speaks of "a projecting mass on the front wall of the vagina." This was evidently the uterus. Nor did he at any time recognize the nature of the case. The result points to the great value of the principle of continuous pressure, when rightly applied, and its superiority over the method of taxis.

65. CURE of Extra-uterine Fecundation by Electricity.—It may be regarded as an accomplished and proven fact that electricity in some form is a specific cure for extra-uterine pregnancy. It arrests the growth and destroys the vitality of the embryo and cyst, and its use is followed by a truly remarkable disappearance of all or the greater part of the growth in a short time. This at least is true when the electricity is used during the first half of the pregnancy. As we approach the period of viability in the child the risk of rupture of the cyst diminishes, and the propriety of surgical interference at or near term becomes greater.

The great advantage of the Faradic current over all other forms of electricity has been shown, but opinion is not yet

settled as to whether we should use a local current for a long time or a strong current briefly, and how many repetitions of the application are necessary. To determine these points, Dr. Henry G. Landis has conducted a series of experiments which are published in the October number of *The American Journal of the Medical Sciences*. They are based upon the supposition that success is achieved by the death of the embryo; the *specific* value of the method being that the foetus will surely be killed if it gets a large enough dose of the current. The experiments are also based upon the supposition that the foetus is in the matter of vitality to be compared with some of the lower forms of life.

Dr. Landis draws the following conclusions:

1. In using the Faradic current in extra-uterine pregnancy, the applications should be protracted for an hour, if the patient can bear it.

2. The current should be repeatedly applied, in order that the vitality of the foetus may be finally exhausted.

3. The current should, for at least one sitting, be used in great strength.

4. The current probably acts, not only by destroying the foetus, but by its action upon the placental circulation; an additional reason for a long application.

66. EXTRA-UTERINE Pregnancy Changed to Intra-uterine, by means of Faradization. DR. HENRY J. GARRIGUES in the *Med. News*.—The success has been so uniform that this treatment has been fully established as *the* treatment in this country, and it is only about minor details, such as the kind of electricity which is to be preferred, the duration of the application, the maximum development of the foetus in which it is applicable, and the varieties of extra-uterine pregnancy in which it ought to be used, that competent men yet entertain different opinions. These questions can only be definitely settled by accumulated experience, and in the present state of our knowledge it would be premature to lay down strict rules. This much is sure, that electricity in all cases, in this country, has proved a certain and safe remedy in the earlier months of extra-uterine pregnancy. As to safety, is especially to be extolled in comparison with the method of injection of morphine, which seems to be preferred in Europe. It is true, that none of the patient treated by the latter method died, but in all recovery was very slow, and in several the patient was at times in a precarious state.

I want to put on record a very curious case which recently was treated by me, with the unexpected result of changing a previously diagnosticated interstitial pregnancy into an intra-uterine. It may be remembered, that already one case of this kind has been reported, namely, that of Drs. Charles McBurney, T. G. Thomas, and T. A. Emmet, but that ended in abortion, while mine went on till the first half of the eighth month, when a child was born.

that lived seven hours, and might probably have survived if proper care had been taken. The details of the case are as follows :

Mrs. Sophia B., æt. 20, born in Russia. She menstruated for the last time, from the 18th till the 21st of March, 1885. On the 20th of May, she consulted me for dull pain in the right iliac fossa. The vagina had a lilac color; the uterus was scarcely enlarged in the median line, but presented at the part corresponding to the right upper angle a swelling without definite limits, and very tender on palpation. No vaginal pulsation.

On June 17th I saw her again. During the intervening four weeks the pain had increased very much. The uterus had grown, but preserved its irregular shape. On the right side the distance from the fundus to the pubic bone was four inches; on the left, three and a half. The right half was very tender on pressure, the left did not present any increased sensibility. The swelling had increased much in size, and filled the right side of the pelvis. The right half of the uterus was large and merged into the said swelling, the left was comparatively little enlarged. She had some shooting pain in the breasts, which were turgescient. Five days later, June 22d, at 10 A. M., she was seized with so violent pain that she thought she was going to have an abortion, and sent in haste for a midwife. I saw her at 3 P. M., and found the cervix closed, but soft, and giving the impression that it was going to dilate. All over the uterus, inclusive of the swelling, was heard an uncommonly strong uterine souffle. I distinctly felt that the left half of the uterus was flat, while the right half, together with the said swelling, formed a spherical mass. Believing she had an interstitial pregnancy in that part of the right Fallopian tube which lies in the wall of the uterus I introduced the sound to a depth of three inches and a half. It entered with the greatest facility, without meeting any resistance. It could easily be turned to the left, but when turned to the right it soon met resistance. There did not come any fluid, neither blood nor liquor amnii. This confirmed me in my diagnosis of right interstitial pregnancy. The pain was provisionally quieted with morphine, while I made preparations for the use of electricity. When I saw her again at 8 P. M., there was some bloody discharge from the uterus, but the cervix was unchanged. The faradization apparatus, which I had used with marked success in my previous case of tubal pregnancy, being at the instrument-maker's for repair, I bought a Smith & Shaw's closed cell pocket battery, applied the negative pole, consisting of a metal ball covered with muslin, against the tumor in the vagina, and the positive pole, formed by a large plate of carbon covered with canton flannel, on the abdomen just above and in front of the tumor. I used the lowest power of the primary current of both cells for ten minutes. The pain was quite supportable.

Before beginning, I mapped out the whole uterus on the abdomen with ink, and later I went over the line with a stick of lunar caustic. It formed an obliquely oblong figure, five inches wide, three inches and a half high. Only two inches of the width lay to the left of the median line, three to the right. She did not sleep during the night on account of excitement, but had not much pain.

The next morning, June 23d, I found all uterine souffle had disappeared. The uterus was much smaller and softer, the change having taken place only in the right side. The uterine body measured now four inches in width, two on either side of the median line, and two and three-quarters of an inch in height. The cervix was unchanged. Nothing had been discharged from the vagina except a few drops of pure blood, no water, no shreds, no lumps. The breasts had become much flatter. Pulse and temperature were normal. Faradization as the evening before. During the day she had some vomiting, headache, and feeling of malaise.

The next morning, June 24th, the headache had disappeared, and she was free from pain, and was not even tender on pressure, except on the place corresponding to the foetal sac.

On the following day (June 25) she felt quite well, and began to eat. The cervix was more closed than heretofore, and the whole uterus had sunk a little in the pelvis.

On the following day (June 26) the tenderness on vaginal examination was much diminished. In the lower part of the uterine body, mostly to the right, was felt a harder, somewhat kidney-shaped part, measuring two and five-eighths inches from side to side, by one and five-eighths in height (foetus?)

During the following days this mass became less distinct, and after three days it could no longer be distinguished.

On July 1st, the tenth day of treatment, the uterus had again risen somewhat out of the pelvis, and measurements showed that it had increased both in width and height. By rectal examination in the left side decubitus, a soft, elastic, tender swelling, of the size of an English walnut, was felt behind the uterus, somewhat to the right (small ovarian cyst?). An artery was felt pulsating in the recto-vaginal septum.

For safety's sake, I applied faradization as above, on July 2d, 3d, 4th, and 5th. The patient felt perfectly well, and all tenderness on pressure had disappeared.

On July 14th she said she felt as if that part of the uterus which lay to the left was growing, and that she had felt movements similar to those experienced in the fourth month of her previous pregnancies.

On July 17th she complained of quite severe pain in the lower part of the abdomen. The womb was evidently enlarged in all directions, but of regular shape. Faradization was used as before

on the 17th and 19th, with the effect of stopping both pain and movements, and diminishing the size of the womb.

On the 23d of the same month I found the uterus forming a regular globular body of considerably larger size than when I had seen it last, eighteen days before. The fundus reached five and three-quarter inches above the symphysis pubis, and five inches from side to side. The uterine souffle had reappeared, but no foetal heart sounds or movements could be heard.

On July 27th she again felt the foetus move.

On August 20th the fundus had approached the umbilicus to within a finger's breadth.

On September 2d I saw her again. The fundus was at the umbilicus. Foetal movements could both be heard and felt, and the foetal heart sounds were heard in the lower part of the uterus, to the right. She felt well, and continued to do so till the end of the next month.

On October 31st, at 1 A. M., she was seized with labor pains, sent for a neighboring midwife, and an hour later, by a normal delivery, gave birth to a well developed female child measuring sixteen and one-half inches in length, and looking as if it weighed between five and six pounds. It lived five hours, and might probably have continued to do so if better taken care of. The parents had the old superstition, that "an eight months' child could not live." When I saw it eight hours after its birth, it had not even been washed. The after-birth was small, but otherwise of normal appearance.

The practical value of this experience will, probably, be rather limited. In abdominal and true tubal pregnancy the indications will be, as heretofore, to try to kill the foetus as soon as possible by means of a strong current; but, in the tubo-uterine variety, it might be worth while trying by means of a weak current merely to facilitate the removal from the cavity in the wall into the interior of the uterus, where, under favorable circumstances, it may form new connections, and be developed sufficiently to allow a living and viable child to be born.

67. PREGNANCY after Double Ovariectomy. (*Centralb. f. Gynäk.*).—In February 1880, DR. SCHATZ removed from a girl aged 20, a large cystic tumor of the left ovary, including the outer third of the Fallopian tube. The right ovary was somewhat enlarged and cystic. It was ligatured by means of three silk threads passed between it and the broad ligament, and in cutting it away, a small portion of ovarian tissue, probably a line in thickness, was left beyond the grasp of the ligature. The tube on this side was left intact. In May the patient menstruated, and continued to do so regularly. In 1884 she was married, and in 1885 was delivered of a full-time child. Schatz expresses his belief that in this case there was no third ovary present, but that

the ovarian tissue left on the far side of the ligature and become nourished and regained its functional activity.

68. CONCEPTION without the Reappearance of the Menstrual Flow. (*Brit. Med. Jour.*)—MR. G. A. RAE records the following case. Mrs. S., aged 44, first menstruated at the age of 11, married when 19, and menstruated a fortnight later. Since that time she has never menstruated, but has always been able to draw off half-a-pint of milk from her breasts. She has had ten children born alive and well, also one at the eighth month, and four others at various times between the fourth and sixth months of gestation. Mr. Rae attended this patient in confinement on June 10, 1884; and in June 1885 she was again pregnant, being about three months advanced, and her breasts being as full as ever.

69. MEASUREMENT of the Feet of New Born Children.—

According to a German Journal, the *Revue des Sciences Médicales* describes a procedure studied by Gonner which may be of interest from an obstetric point of view. The question is as to whether there exists a constant proportion between the size of the foot and of the head; its solution becomes of interest in cases of breech presentation. A series of measurements taken at the clinic at Bale seems to establish the fact that the difficulty of delivering the head may be calculated from the length of the foot of the child. As a result of measurements made upon one hundred newly born infants, it was found that a foot measuring eight centimetres, (3.15 in.) in length, corresponded with a weight of the child of 3,000 grammes (6½ lbs.), and that when the foot measured more than eight centimetres, it was to be expected that the child would weigh more than the average foetus at term; in such a case, therefore, special difficulty in extraction was to be apprehended. When the foot measured less than 7.3 centimetres (2.9 inches), the foetus had not reached full term in most cases. These results were obtained from children of the working classes; the influence of heredity, occupation, race, etc., may change the figures considerably.—*Lyon Medical.*

70. PUERPERAL Eclampsia, Treatment of.—M. CHAMBERT, in his *Thèse pour le Doctorat en Médecine*, Paris, 1884, gives an account of eight women attacked with puerperal convulsions, one of whom died. The treatment pursued was uniform, and the same as recommended at the conclusion of his thesis. The value of his thesis consists in a concise statement of the treatment which is at present generally accepted in Paris as the best, although violently opposed by Professor Pajot and other eminent obstetricians.

M. Chambert's conclusions are:

1. A woman presenting the following symptoms, albuminous

urine, œdema of the lower limbs, headache, troubles of vision, etc., should be placed on an "absolute milk diet."

2. After convulsions have occurred the bowels should be cleared out, and then an injection should immediately be giving containing six or eight grammes (90 to 120 grains) of chloral, according to the intensity of the convulsions. If the temperature rises this should be repeated after two hours, and if the convulsions still persist, the patient should inhale chloroform. The usual formula for the injection is—new milk $\frac{3}{4}$ iij, yolk of one egg, chloral hydrate grs. 90.

In a plethoric patient, with symptoms of congestion, it is permissible to bleed to an amount not exceeding 16 ounces.

3. In every case the termination of labor should be hastened, provided dilatation of the os is complete, the forceps being applied or version employed if there is the least delay in the expulsive stage of labor.

The milk regimen should be continued till albuminuria has completely disappeared, and if, after labor is over, convulsions threaten or actually occur, a draught of 90 to 120 grains of chloral may be expected to arrest the attacks. Milk regimen, chloral and chloroform are the most powerful means of modifying the unknown cause, which produces puerperal eclampsia.—*Am. Med. Digest.*

71. SUBINVOLUTION of Uterus.—DR. F. ELLINGWOOD (Chicago) considers fluid extract of ergot and bromide of potassium as specifics in subinvolution. Regarding the benefit to be obtained from electricity we quote as follows: "Electricity is a most powerful adjuvant, and if used in the form of the mild galvanic current, will rapidly produce an amelioration of the symptoms, and, if used immediately subsequent to confinement, will absolutely prevent the condition, and the long train of evils which will surely follow, and will restore the womb rapidly to its normal state. The galvanic current, judiciously applied, will accomplish this restoration in three weeks."—*Weekly Med. Review.*

72. NEW Method of Diagnosing Pregnancy in the early Months.—The sign on which PROF. HEGAR comments ("Ann. de Gynec.") is a particular softness, a certain subtileness, and a thinning of the lower segment of the uterus; i. e., of the part of the uterus which is immediately above the insertion of the sacral uterine ligaments. This condition can be easily verified, not only when the uterus is resistant, as is usual, but still more so when it is elastic and soft. Even in these cases it is possible, by depressing the lower part of the uterus, to distinguish it from the superior portions and from the rigid cervix. The softness of this part is such that one might imagine that the cervix was simply in contact with a pelvic or abdominal tumor. We do not

know what pathological condition of the womb can present such symptoms. The cause of this remarkable sign exists in the fact that the inferior segment of the uterus becomes, during pregnancy the finest part, the softest, and the most elastic. It thence results, that, in practising the rectal touch with abdominal palpation, it is possible to feel between the fingers this portion of the uterus, with the characters it presents.—*Medical and Surgical Reporter*.

73. PUERPERAL Eclampsia.—MR. ANDREWES related two cases of puerperal eclampsia, one of which, in a girl, æt. 15, ended fatally in less than twenty-four hours, the kidneys being found at the post-mortem in a state of acute fatty degeneration. The other case terminated favorably. He proceeded to contrast the two cases, and drew attention to the various points of interest in them. The predisposing cause of puerperal eclampsia lay, in his opinion, in an exalted condition of nervous irritability incident to pregnancy and parturition. The exciting cause might in some cases be due to peripheral irritation, but the large preponderance of cases in which eclampsia was associated with albuminuria made it probable that uræmia took an important share in the production of the disease. Mr. Andrewes declared his disbelief in the Traube-Rosenstein theory of cerebral anæmia caused secondarily by œdema of the brain, on the ground that transudation must cease when equilibrium was reached between intra and extra-vascular pressure, and that hence it is physically impossible that œdema could produce cerebral anæmia. In the treatment of puerperal eclampsia he dwelt on the importance of testing the urine of pregnant women, and on the value of keeping the bowels moderately open by saline purges, in cases where the occurrence of eclampsia was probable, bitartrate of potash being especially valuable. In the treatment of the convulsions themselves large doses of bromide of potash and chloral combined with the administration of chloroform are of the greatest efficacy in aiding the patient to tide over the critical period. Pilocarpin is of more doubtful value, while venesection, through producing great temporary relief, is likely to do permanent good in a small proportion of cases only.—*Med. Press*.

Pædiatrics.

74. ASPHYXIA of New-Born Children, recent methods of treatment—an abstract of a paper by DR. W. L. REID, in the *Glasgow Med. Journal*.—Besides that of Dr. B. S. Schultze, professor of midwifery in Jena, which I mean more particularly to describe, there are eight methods before the obstetric public, but at present I can only indicate the principles of these.

1. Marshall Hall : The patient is turned face downwards so as to press on the chest and cause expiration, then turned on the side so as to free the chest from pressure, and produce inspiration by means of the elasticity of its walls.

2. Howard : The arms are extended, the wrists being brought together over the head and the chest thus expanded. The lower ribs are then alternately pressed on and relieved from pressure, so as to cause expiration and inspiration.

3. Sylvester : The arms are raised upwards and forwards for a few seconds, and then pressed firmly down against the sides of the chest. By means of their muscular attachments the ribs are raised and air sucked in, which is expelled when the arms are brought down again.

4. Pacini : The feet are fixed, and the operator standing with the head against his own abdomen, seizes the arms at the axillæ and pulls the shoulders upwards and forwards, then allowing them to return to their former position.

5. Bain : The shoulders are raised by lifting the body a foot off the table by seizing its hands. They are then allowed to fall back again, thus causing alternate expansion and contraction of the thoracic cavity.

6. Schücking : Like Sylvester's except that he carries the arms outwards as well as upwards.

7. Schlettcr : The operator puts his fingers under the edges of the ribs, and pulls them up, afterwards depressing them.

8. Schröder : The body is supported by one hand placed under its back, allowing the head, shoulders, arms, and pelvis to fall backwards with the view of producing inspiration, expiration being caused by sharply bending the body forwards so as to compress the chest and abdomen.

Lastly, Schultze's method : The child is to be suspended a few inches from the floor, by the two index fingers placed in the axillæ from behind, the thumbs lying loosely over the front of the thorax, and the other fingers spread also loosely over the thorax behind, the head being supported against the edges of the ulnar bones. Without delay in this position, the child is swung sharply

upwards, until the operator's arms are extended horizontally, then the upward movement is continued more gently so as to bring the legs slowly past the perpendicular and allow them to sink quietly against the front of the child's body. The weight of the latter is now supported by the thumbs in front of the thorax, and the chest pressed on all round by the fingers, and its arms laid against its sides. This compression through the diaphragm below, and the fingers all round, causes aspirated fluids to flow freely from the mouth and nose. After being retained in this position a few seconds, the body is swung smartly down again into its former position, taking care that now there is no compression of the chest, either before or behind, but simply a suspension of the child on the index fingers. During this movement the contents of the abdomen, partly by gravity, and partly by centrifugal force, fly away from the diaphragm, and dragging it down, enlarge the chest from below. At the same time the arms are separated from the sides, and by their muscular attachments drag the ribs upwards; and in this way air is sharply drawn into the lungs. These movements are continued every four or five seconds, unless when a considerable quantity of fluid continues to come from the mouth and nose, when the movement of expiration is on that account prolonged.

A few years ago Dr. F. H. Champneys, Assistant Obstetric Physician to St. George's Hospital, London, undertook a series of experiments on the fresh bodies of newly-born children, with the view of finding out simply which method took most air into the chest. The methods tested were the nine I have already mentioned. The conclusions, amongst others, to which Dr. Champneys came, are these :

"Since the position of equilibrium of a still-born child's chest is one of absolute expiration, airlessness, or collapse, no method which depends on elastic recoil of the chest walls will introduce air into its lungs. The methods of Marshall Hall and Howard are useless as means of directly ventilating the lungs of still-born children." "Silvester's method and its modifications by Pacini and Bain introduce more air into the lungs than any other method." "Schücking's method is no improvement on Silvester's." "Schüller's method is useless, and not free from risk." "Schroeder's method is useless." "Schultze's plan, although its power of ventilation is less than that of Silvester and its modifications, yet acts efficiently."

Given the birth of an apparently dead-born child, how ought we to proceed with its treatment? Personally, I believe in hanging it up by the heels with one hand, and clearing out its mouth and throat with the forefinger of the other. If this, followed by sharp whipping of the buttocks with the loosely hanging fingers, does not excite inspiration, I proceed at once with Schultze's method. The following is his own plan. If the heart is beating

strongly, and the child only in the livid state of asphyxia, the the cord is not cut, but the mouth cleared out, and cold water squirted on the pit of the stomach and nape of the neck. If the heart's action is weak to begin with, or becomes weak, the cord is divided, allowing three or four teaspoonfuls of blood to escape, and the child dipped suddenly up to the neck in cold water. This failing, or when the child is born in the pale stage of asphyxia, after dividing the cord, clearing the throat, and pulling forward the tongue, swinging is at once had recourse to. The expiration position being gained, fluid pours out of the air passages by the mouth and nose, and as soon as it ceases, the inspiration position is assumed, when oftentimes the air is heard whistling through the glottis. These movements are to be executed eight to ten times, occupying, in all, about a minute. Aside from the ventilation of the lungs, and the removal of fluids from the air passages, the alternate raising and lowering of the pressure in the thorax acts mechanically in promoting the action of the heart, and the circulation of the blood. In this way oxygen is sooner carried to the medulla, restoring its power of setting up breathing, and this may be proved by noticing that the skin becomes redder even before spontaneous breathing has occurred. Often a little whimpering sound tells that weak efforts at inspiration are being made, and the swinging must then be timed, so that the artificial shall coincide with the natural attempts at breathing. After eight or ten swings the child is put into a warm bath (95° - 100° F.) to do away with the evil effect of rapid cooling, and to observe the result of the treatment. If there is no movement, it is swung again for another minute. If there is slight regular movement, the medulla is roused by dipping to the neck in ice-cold water. If the asphyxia recur swinging is resumed, although this is always a bad sign, showing that there is an effusion of blood on the brain, or malformation of the respiratory or circulatory organs. The artificial means must not be stopped until the heart's action is completely restored, and the child cries loudly. In the case of a premature child with weak chest walls, or where after swinging a few times, no air is heard to enter, it is wise practice to pass a catheter into the trachea, blow in a little air to distend the air passages, and immediately resume the swinging.

In the employment of this method, the following points must be attended to, and I again call your attention to them, because, as Schultze himself says, and as six years' personal and somewhat extensive experience of it has taught me, the success of it depends entirely on the thoroughness of its performance. (1.) The first movement must be that of expiration, else the contained fluids will be sucked still deeper into the air passages. (2.) The downward movement must be a fairly sharp swing, else the effect on the diaphragm will be largely lost. (3.) If no air is heard entering, either the swing has not been powerful enough, or the thumb and

fingers have not left the thorax free or the glottis is closed. In the latter case the catheter must be used immediately and the swinging resumed.

75. DIPHTHERIA.—DR. G. A. TYE, (*Canada Practitioner*), says: We possess two means—prevention and cure—which enable us to lessen its ravages. Our greatest power at present lies in the former.

The predisposing causes are telluric, meteorological, and individual. Amongst the former are low, damp situations. Houses are placed close to the ground, with no provision for currents of air to pass beneath them to dry the soil or expel noxious vapors. Houses too closely surrounded with plants, shrubbery, or trees, are favorable to the development of low organisms. River flats, sites of old saw mills where there is much decomposing sawdust, seem to be prejudicial.

It is communicated by the direct passage of morbid material from a diseased throat to one previously healthy. The history of tracheotomy presents some lamentable illustrations of this fact.

It may be communicated by the inhalation of germs existing in an insanitary locality, although no case of the disease then exists there. It is communicated by germs wafted in the air, and that for a considerable distance; and they produce the disease, more especially when a predisposition exists, so that many suffer whose sanitary surroundings are apparently perfect; so that the clean, as well as the unclean, may be obliged to share the calamity.

FROM a review of these several Reports, which necessarily vary according to the "personal equation" of each observer, we are at once struck with the fact that school attendance helped to spread diphtheria in all the cases inquired into, this being associated in three cases with bad ventilation, overcrowding, and defective closet conditions. Excessively damp circumstances were associated with the disease in half the cases, and drain and sewage nuisances in several of them. Animal illness of a diphtheritic nature was observed twice in relation with true human diphtheria, and on one occasion animal food was suspected. Lastly, the reports show how an epidemic disease may be fostered by its ignorant or wilful mis-registration.—*Med. Press.*

76. TREATMENT of Scarlet Fever.—DR. W. DANFORTH, in the *Medical Era*, epitomizes the result of thirty-five years experience in the treatment of scarlet fever:—

For the past *twenty-seven years* I have treated almost all of my scarlet fever patients with the *wet pack*. If my patient has a high fever, and the rash appears on Monday morning, I direct that he shall be carefully packed in cotton cloths (or rags) wet in *warm* soda water—i. e., a tablespoonful of bicarbonate of soda to two

quarts of *hot* water). These cloths consist of old shirts or sheets, and are to be used three or four thicknesses, thoroughly wet and wrapped carefully about the limbs and body so as to completely cover hands and feet and every other part of the skin affected with the eruption. Dry cloths are to be placed outside these and fastened by strings or tape so as to hold the pack *securely* in position. This first pack is to remain until night, when it is removed and the rags put to soak in warm soda water until the next morning, *fresh cloths* being used for the night pack. And so I direct the use of six packs—i. e., night and morning for three days consecutively, the last pack being used Wednesday evening. Thursday morning the cloths are removed, the patient given a warm bath, and then *thoroughly rubbed* with *hot lard*; and this treatment is to be repeated once a day for three days longer, making six days of active treatment for my case, during which time I administer such medicines as seem to be indicated (generally aconite and belladonna), keeping my patient upon a light diet, regulating bowels and seeing that no colds are taken, etc.

I have treated 1,080 cases of the fever by this general and particular plan, without the loss of a single case. Not alone this, but in no case has there been any considerable desquamation, or indeed any of the dreaded sequelæ. While a large majority have been mild cases, many have been of the severer type, and some have hung between life and death for days with every prospect of failure.

77. *DIAGNOSTIC Value of the White Streak in Scarlatina.*—

This phenomenon, which can be produced by rubbing a soft body upon the skin which is affected with the scarlatinal eruption, is considered by the author an important diagnostic sign of scarlatina which has hitherto been overlooked. When in the normal condition one draws a line upon the skin with a smooth surface, as the rounded extremity of a pencil, and uses moderate pressure, there may be observed at the points touched a white line which lasts for some time. This paleness is due to the moderate excitation of the vasomotor nerves and the contraction of the small vessels which follows it. If the pressure has been very strong, in place of a white line a red line bordered by two white ones is produced. The excitation in this case has paralyzed, temporarily, the small vessels in place of contracting them, while in the area which is contiguous where the pressure has been less strong the excitation has led only to constriction of the vessels. In certain diseases the effects which are obtained by this procedure vary greatly. Trousseau, for example, has shown that in patients suffering from meningitis a red line is produced by pressure with the greatest ease, and this has been called the meningitis line. It may also be produced in all the diseases which lead to perturbation of function in the nervous system. Thus, it may be pro-

duced in many cases of typhoid fever, in erysipelas, variola, rubeola, and the diphtheritic eruptions. But it is not the same in appearance in scarlatina during the entire period of the eruption. In place of getting the red meningitic line, a pale, rather persistent line is produced, which extends plainly to the bottom of the eruption. This fact was long ago noticed by Bouchut, and was considered a valuable sign as a means of diagnosis, both in children and adults. It is not equally prominent and distinct at all periods of the eruption, Velpeau having observed that it is not produced when the efflorescence of scarlatina is at its highest degree of development. In the diphtheritic eruption, which resembles that of scarlatina accompanied with angina, the excitation of the skin, produces a red line and not the white one of scarlatina. This sign is especially valuable in those cases of measles in which the eruption closely resembles that of scarlatina. The same is true in variola, in which other differential signs are often absent. It must be borne in mind that the important feature in making this test is that the white line appears upon the surface which is covered by the eruption.—*Archives of Pediatrics.*

78. *NEPHRITIS following Varicella.*—DR. HÖGYES, of the Stéphanie Children's Hospital at Buda-Pesth, contributes to the *Jahrbuch für Kinderheilkunde*, the notes of the following rare cases. The first case was that of a boy, aged $2\frac{1}{2}$ years, who was admitted into the hospital to have a symblepharon operated upon. On Oct. 25, eleven days after admission, an eruption of varicella, consisting of about thirty spots, appeared; and, as there was at the time an epidemic of varicella in the hospital and city, he was removed to a ward specially reserved for these cases. There was only moderate increase of temperature; the bladders dried up on Oct. 27, and had all scaled off by Nov. 2, and on the 5th the child was returned to the eye section. On Nov. 15 the face was observed to be puffed, and the hands and feet somewhat œdematous. Within the next two days the œdema greatly increased, the child became powerless and somewhat feverish (100.8), pulse rapid and scarcely to be felt; the bladder was impalpable, although no urine was passed for eighteen hours. The abdomen was prominent, but there was apparently no ascites. By means of the catheter a very small quantity of urine was obtained; it was very cloudy, of a reddish-brown color, and contained a large proportion of albumen. Microscopically it showed granular casts, kidney-epithelium, and blood-corpuscles. The treatment consisted of hypodermic injections of pilocarpin with acetate of potash mixture, but no sweating followed. Towards evening on Nov. 17 the child became much worse; the respiration was rapid, superficial, and sighing. The base of the left lung was dull, with feeble breathing sounds, and occasionally bronchial breathing; above the line of

dulness (angle of the scapula) there was fine crepitation. The signs over the right lung were the same, except that there was no bronchial breathing. On Nov. 18, the œdema had greatly increased; the dulness and bronchial breathing were more marked; the face and extremities were cyanotic. Death ensued at midday.

The second case occurred in the same epidemic, and was that of a girl, aged 7, who was brought to the institution with varicella on Oct. 28. The eruption was rather severe, but was unaccompanied by fever. The vesicles completely dried up on Nov. 3, and the child was discharged cured on Nov. 7. On Nov. 21 she was brought to the hospital with swollen face and feet. No physical change could be made out in the internal organs. The urine was dark yellow, acid, somewhat cloudy, and largely albuminous. The microscope showed finely granular casts and kidney-epithelium. Acetate of potash was ordered. Up to Nov. 25 the œdema continued about the same; the daily quantity of the urine was 420 cubic centimètres. On the 26th it was 800, and on the 28th 1,200 cubic centimètres. The quantity of albumen was at the same time notably diminished, and the microscopic appearances became normal. On Nov. 30 the child complained of pains in the joints, and the temperature rose from normal to 105.8°; but, under the influence of salicylate of soda, the pain and fever rapidly subsided. Another transient arthritic attack took place on Dec. 9. On Dec. 12, there was complete disappearance of all symptoms of nephritis; the urine was abundant; no albumen.

The two cases above given show—1, that nephritis may follow varicella; 2, that the nephritis may be very severe; 3, that it may appear from five to twenty-one days from the commencement of the eruption.

79. *AN Outbreak of Vaccinia*.—DR. H. C. GARDE sends the following communication from Youghal to the *Medical Press*.—A few weeks ago I was sent for to see the child of Colonel—, affected with an eruption somewhat between herpes and vaccine pustules; the concomitant febrile disturbance was what excited my suspicion. In a few days another child sickened, and became covered with the same eruption. I would have looked upon it as variola, only that I had efficiently vaccinated these children. In a few days more all the children were down—eight. The eruption went through all the phases of vaccine pustulation, and the constitutional disturbance was pretty severe. I at once saw I had to deal with a zymotic malady of the variolous type, and set about inquiring the cause, and soon discovered that the cows supplying the nursery with milk had been ill, and showed some pimples on their paps; but strange that the woman who milked them was not affected, only the children, who had no contact with them, and drank their milk only, were affected, contrary to all theory and

experience. Some curious questions now present themselves. Why did not vaccination protect these young children from evident vaccinia? Would vaccine virus introduced into the alimentary canal produce vaccinia? Would variola virus introduced into the intestinal canal produce small-pox? Jenner did not consider the milk of a pustuled cow as infecting or protective, and Wertheim, in his beautiful series of experiments, quite overlooked this mode of inoculation or ferment production; but we now know from this outbreak that the milk of a cow affected with vaccinia may produce the malady in those who drink it, as surely as if inoculated with the virus from the pustuled pap.

80. NOCTURNAL Incontinence of Urine in Children.—Dr. A. L. EBERMANN, of St. Petersburg, in discussing the pathology and treatment of nocturnal incontinence of urine in children, insists on the necessity of a strict individualization of the cases. He divides the latter into five categories. 1. Incontinence of urine from failure of sphincter; 2. Incontinence from increase of contractile strength of the detrusor; 3. Incontinence from diminution of capacity of the bladder, which diminution results from the patient's adhering to the infantile habit of very often voiding urine; 4. Incontinence from atony or hyperextension of the bladder; 5. Incontinence from irritation of the vesical cervix by stones. The first variety of the cases may be recognized on the ground of—*a*, inability of the patient to retain urine also during daytime; and *b*, easy penetration of a *bougie à boule* into the bladder. The second form may be determined by—*a*, powerful ejection of water injected into the bladder; and *b*, pain felt by the patient when he tried to retain urine in presence of a call for micturition. The third category is diagnosed also by means of injecting water into the bladder; when the capacity of the bladder is diminished, the viscus admits only a certain small quantity of fluid, corresponding to the usual quantity of urine voided by the patient at a time: on injection of a surplus, the fluid flows back more or less rapidly, according to the degree of pressure on the piston of the syringe. Atony of the bladder is easily recognized from the escaping of a large quantity of urine through a catheter introduced immediately after spontaneous micturition. The fifth group of the cases is diagnosed by the sound. As to the treatment, Dr. Ebermann recommends for the first group the administration of nux vomica or strychnine, the ascending *douche* to the perineum, and, above all, electricity in the shape of faradization, or, in obstinate cases, interrupted galvanization, the cathode being placed at the perineum, the anode at the hypogastrium or sacrum; for the second group, belladonna in increasing doses (beginning with 6 centigrammes five or six times daily): still better, chloral, and in anæmic children solution of perchloride of iron; for the third group, exercise the patient's control over

the bladder, intravesical injection of warm water in gradually increasing quantities ; for the fourth, frequent catheterization, vesical injection of water, and electrization ; for the fifth, lithotomy or lithotripsy.—*London Medical Record*.

81. *MASSAGE in the Treatment of Infantile Paralysis.*—The advantages of this method of treatment lately formed part of a lecture by Dr. Murrell on the above disease, and as it includes some important modifications in the ordinary manner of conducting the operation, it may be worth while to draw attention to it. After treatment during the acute stage by means of aconite, followed later on by physostigma and phosphorus, recourse is advised to a carefully graduated system of *massage*, commencing with simple *effleurage* or surface rubbing, followed by the *friction*, which is a more energetic application. As the case proceeds kneading of the affected limbs or muscles is resorted to, and this is succeeded by or combined with systematic *tapotement*, which is a form of percussion. This plan of treatment, conscientiously carried out, has, when the case has not been too long delayed, been followed by excellent results, but it should only be done by the advice and under the care of the medical attendant, as indiscriminate *massage* is likely to be futile, and may be injurious. The operation should be conducted with dry hands and on a dry skin, and all oily or other inunctions studiously avoided.—*Med. Press*.

82. *SMALLNESS of Parts in Children.*—First of all must the children's surgeon acquaint himself with the anatomy of the child. This is rarely done, as the ordinary dissections of the adults during a college course give little idea of the size and position of the individual elements as seen in the infant. In consequence of ignorance upon this practical point, many grievous failures have occurred. After unusual opportunities for the study of both normal and abnormal tissues in the diminutive frame, I am still frequently surprised to note the exceeding smallness of different organs and canals.—(DR. MILLARD)—*Phila. Med. Times*.

83. *USE of Natural Mineral Waters in the Disorders of Childhood.*—In the *Med. Times and Gazette*, Mr. WALTER PYE contributes some observations on the action of Friedrichshall water upon children of all ages up to eleven years. The cases are divided into two groups, (1) those where it was given as a simple aperient in some transitory ailment, and (2) those where it was desired to produce some definite alterative effect upon a disorder of growth, or nutrition. In the first group the author gave the drug in doses of from one and a half ounces to four ounces ; it was found generally sufficient to produce one or two actions of the bowels without griping, but as a rule the more common veg-

etable laxatives of rhubarb and senna are preferable. With regard to the second group, the result of fifteen recorded cases tends to show that in Friedrichshall water we have an efficient means of quickening tissue-changes throughout the body, and especially of improving the condition and work of the lymphatic glands of the liver. It has also a marked effect in regulating the action of the intestines in the colicky attacks common in diseases of nutrition, such as rickets and congenital syphilis. In these cases it is necessary to lessen the dose after the first week or ten days, in order to avoid purging. The water should be given warm, and the first thing in the morning.

84. *THE Curding of Milk as Modified by Various Conditions.*—Dr. JAMES RITCHIE showed several specimens of milk curd. He had curded milk under various conditions, and had found the results so interesting, and in some cases so unexpected, that he thought the Fellows might like to see the specimens. All the specimens of milk had, after mixture with various substances, been treated in the same way, viz. they were heated to 98° , a small quantity of common salt was added, then essence of rennet, the mixtures were stirred, then left in the water bath at about 98° for half an hour. After some hours the curd was broken down, and when the whey separated it was filtered off. Pure milk showed a very hard curd in large masses. The dilution with water causes the curd to be considerably softer, and specimens diluted with an equal part of water show a softer curd than those which had only a third of water added. The acidulation of the milk and water with 0.02 per cent. of hydrochloric acid causes the curd to be much harder. If, therefore, a child's stomach in an irritable condition secrete a very acid gastric juice, the curd of milk and water will be a hard one. The addition of farinaceous gruels (oatmeal, barley-water and rice-water), in the proportion of one-third, causes the curd to be in small soft flakes; and it is very noticeable that if such mixtures be acidulated, the curd is not much harder. The effect of boiling the milk is very marked; the curd is in very small, soft flakes, so small that it is difficult to remove the whey. But when boiled milk is acidulated, the curd is much firmer than that produced in acidulated specimens having gruels added. The addition of one-third of lime-water causes the curd to be in small, soft flakes, not so soft, however, as those produced in boiled milk. And it is worthy of note that a very hard curd is produced in milk with one-third of lime-water, if it be rendered faintly acid. The curd of mother's milk is very soft and in small flakes. The amount of essence of rennet added to the specimens of cow's milk caused them to have an acid reaction to litmus paper, but a larger proportion had to be added to mother's milk before the acid reaction was obtained. These specimens confirmed the results obtained in practice, viz. the measure of advantage

gained by dilution of the milk, the great benefit of boiling it, the marked improvement in the quality of the curd if it be kept open by mechanical means, as by the addition of gruels or of lime-water. But they show that this benefit is lost in the case of lime-water mixtures if much acid is present, and that under such conditions a softer curd is obtained by mixture with gruels than by boiling only, or by addition of lime-water only.—*Brit. Gyn. Journal*.

85. PARTIAL Dislocation of the Head of the Radius Peculiar to Children.—MR. SIDNEY H. LINDEMAN, in a short paper on this subject, says that the late Mr. McNab, of Epping, was the first to call attention to this injury in England, in Heath's "Junior Surgery"; and in Ranking's *Abstract* for 1863, vol. i., there is a paper by Dr. Hodges on the subject. M. Goyrand has also paid it much attention. But great doubt has always been expressed as to whether this injury in children under five years of age is a dislocation of the radius at the elbow, or a displacement of the fibro-cartilage at the wrist, so difficult is it in children of this early age to get a complete diagnosis. The dislocation has in every case that I have seen, occurred in children under the age of five, the most common period being between nine months and two years. It is a partial dislocation of the head of the radius, forwards on to the condyle of the humerus, perhaps in some cases reaching the shallow depression above the trochlear surface which goes by the name of the radial depression. It is generally caused by some one saving the child from falling by taking hold of the hand. In elder children, it is caused by nurses swinging them around by the hands, or it may result from a fall. In the first two cases, the tendon of the biceps largely participates in its production. This muscle acts both as a supinator and a flexor of the forearm; but it also flexes the arm on the forearm, when the latter is fixed, as in climbing; and, consequently, any great traction at the wrist causes it to be strongly brought into play, and so tends, by reason of its attachment to the posterior surface of the tuberosity of the radius, to bring the upper extremity of that bone forwards, out of its place. (In adult life, I doubt if this partial dislocation ever occurs, but several cases are reported of complete dislocation forwards. *Vide* Dr. Will, *Lancet*, June 7, 1879).

After meeting with the accident, the child is brought evidently in great pain. The injured limb hangs down midway between pronation and supination. The person who brings the child rarely knows where the injury lies; but generally thinks it is in the shoulder. Taking hold of the hand causes very great pain. The elbow is found to be hotter than its fellow, and there can always be felt an unnatural prominence on the outer side of the joint. Flex the arm to a right angle and complete pronation can be accomplished; but, in attempting to flex more, or to supinate, some resistance is felt.

Reduction of the dislocation is accomplished by taking the hand of the child in the opposite one and strongly supinating, at the same time that the thumb of the other hand presses on the head of the radius. Before complete supination has taken place, a distinct "thud" will be heard, and the head of the radius felt to slip back. One of the peculiarities of these cases is, that the child, a few minutes after the reduction, will move the hand and arm, and will even grasp any thing that may be offered to it, without apparently suffering any pain. These dislocations have a great tendency to recur, especially if not reduced early in the first instance. I have seen more than one case in which permanent enlargement of the elbow-joint has resulted, through the dislocation not having been diagnosed and properly treated in the first instance. After the reduction, it is necessary for the joint to be kept at rest by a rectangular splint, the small tin ones being the most suitable for the purpose. The injury most frequently occurs in children of the strumous type, with large ends to the bones. Previously to the last two years, no notes were taken of cases seen. Since doing so, twenty-four examples have come under my observation.

I think that a slipped tendon of the wrist, to which children are rather liable, may have been mistaken for a dislocation, and so led to the confusion, which has previously occurred, concerning injuries to the fore-arm in children of this age.—*British Medical Journal*.

86. *ECLAMPSIA in Early Life.*—*Healy in N. Y. Med. Jour.*—In the nervous system of the child the spinal predominates over the cerebral activity; and this is as it should be, since the different organs of the animal economy necessary to furnish nutrition for bodily growth, are in active progress long before the infant formulates ideas. The term "convulsions" is applied to different forms of spasmodic disease in which muscular innervation is deranged or perverted so that the movements become irregular and automatic, and are no longer controlled by the will. A classification into two varieties seems appropriate—namely, congestive and anæmic. In treatment, first allay the spasm. Generally the relaxing properties of a hot mustard bath will prove sufficient, with some pungent application to the nose, or the administration of the bromides, chloral, or asafoetida by the mouth or by enema. Should the convulsions still continue, and be severe, it is best to resort to the inhalation of chloroform and alcohol until the spasm be controlled and inquiries made in search of the cause. The hypodermic injection of chloral and the inhalation of nitrite of amyl with injections of morphia, have not been necessary in the doctor's practice. If the pulse be full and bounding, it will suggest congestion, while if weak and feeble, anæmia or syncope. Examine the head, whether cool or hot, the fontanelle protruding or retracted, the eyes congested or natural the

face flushed or pale, the gums red and swollen. A pulse of 130 with accompanying headache, vomiting, and fever would indicate a digestive disturbance, and, if seen early, an emetic of ipecac, followed by a calomel purgative will be of service, and, later, bismuth and soda. A slow and feeble pulse of 40 would suggest the advent of meningitis, where the bromides are of signal value. If there has been diarrhœa, and the head cool, pulse weak, then a little brandy and water may be given. In some cases we find flatus in the bowels producing convulsions, and the belly tumid; here friction with hot mustard water, together with some carminative, as peppermint, anise, etc., should be given.

87. *TREATMENT of Diphtheria. Abstract of an Article in the Medical World by DR. T. G. COMSTOCK.*—As an internal remedy, I now use cyanide of mercury, third decimal trituration, a small powder, say about one grain, every two hours. Remedies used locally are as follows: The throat is sprayed with peroxide of hydrogen; this is a preparation that is unirritating, harmless and not unpleasant. Peroxide of hydrogen is an antiseptic, and a most potent germ-destroyer, and, although unirritating, it is ranked as an antiseptic superior to corrosive sublimate. It is a most efficient and rapidly destructive agent, acting more powerfully upon putrefying matter than any thing else we possess, and, while destroying the vitality of bacteria, it coagulates the diphtheritic membrane, so that the child will *readily and easily cast it off*. After spraying the throat (and this requires mechanical skill in the physician, and no little tact), I then touch the throat with a mixture of equal parts of balsam of Peru, turpentine, and alcohol. This is applied by taking a piece of borated cotton, rolling it into a ball, and placing it into the jaws of a small dressing forceps which has a clamp or catch to it, and then dipping this into the mixture, and quickly but thoroughly penciling the throat with it, so as to remove any membrane that may be left, and varnishing the throat with the medicament. During the day I direct the child shall be induced to gargle the throat often with the peroxide. Besides this, if desirable, a second gargle may be used; place a little sulphur in very warm water, and let the child use this sometimes instead of the peroxide. For some years past we have used sulphur by insufflating it into the throat; it certainly possesses some virtue, but it is by no means so potent as the peroxide of hydrogen. As diet, give the child milk and lime water, or in some cases if it can be had, peptonized milk, or milk punch. In diphtheria it is rational (and the result has proved a success), to give alcohol in some form as an adjunct. "Alcohol is a nerve-stimulant, and as such may be employed in febrile and septic conditions—not to give strength, but to *call it forth*; so that it might be advantageously resorted to where there is a lack of energy in

the system which wants to be roused up," and in this manner the practitioner may cautiously avail himself of it, especially in diphtheria, as also, in malignant scarlet fever. It is a physiological fact that alcohol counteracts the depressing effects of the diphtheritic poison, which tends to produce a paralyzing action upon the heart. By the use of the cyanide of mercury internally, with the local applications above named, a nutritious and stimulating diet, pure air in the sick room, carefully disinfecting the septic secretions, avoiding the use of handkerchiefs or towels, but instead, using pieces of old muslin to wipe the nose or mouth, and burning them immediately, in order not to spread the infection, will fulfill about all that can be done in this most formidable disease. The practitioner must be aware that the great danger in this infectious disease is the development of a peculiar morbid, necrotic, or lethal process, which attacks the heart; and this is made manifest by symptoms showing exhaustion of the vital energy, and it is often announced by the setting in of symptoms of paresis, or paralysis of the voluntary muscles of speech. In such cases recovery may and does take place, even after paralysis sets in, but the prognosis of all such cases is certainly grave. Such remedies as digitalis, chinin, arsenic or strychnine may be required in small doses, to combat such complications or sequelæ. In spraying the throat the nasal cavities should also be sprayed, because in diphtheria the diseased process usually extends to the nasal cavities, and it is quite as necessary to attend to this locality as to the throat itself; in bad cases, it is our custom to instruct the mother to inject the nasal cavities every hour or two with the peroxide, and this may easily be accomplished by simply using an ordinary medicine-dropper, which is to be filled with the solution named, and sent up into the nostrils. The injecting of this into the nose is not more irritating to the child than using so much water for the same purpose. In extreme cases we have resorted to rectal alimentation, especially when paralytic symptoms set in, and where the dysphagia was marked. We then use peptonized milk, which seems to be more readily taken up, and perhaps more directly absorbed in the rectum than any thing else we know of; this adds some little nourishment to the system, a desideratum very much required to sustain life. Such proceedings are to be regarded as simply valuable adjuncts, which the skilful physician must resort to where he is so limited in his therapeutical measures.

Certain other remedies, such as aconite, belladonna, kali chlor., kali bichrom., spongia, bromine, and last, but not least, turpentine, may all be required as called for by the peculiarities, or individualities of the case.

The experience of others warrants me in mentioning turpentine as an internal remedy in some desperate cases; as a stimulant to the vaso-motor nervous system, turpentine is one of our best and most reliable remedies. The indications for its use are: When

the action of the heart is feeble, arterial tension low, and peripheral circulation languid. In such cases of diphtheria, when every thing else has been tried, turpentine may be required ; and we know of two cases where turpentine in doses of from two to ten drops every two hours, saved the children. Black coffee, in extreme weakness of the heart, should also be tried.

88. URICARIA Occurring in Infancy.—In a communication read before the Clinical Society of Paris (*La France Médicale*), Dr. J. COMBY states that Prof. BOUCHARD, in his researches upon dilatation of the stomach, has observed that a certain number of these patients are subject to more or less annoying outbreaks of urticaria. It is not at all surprising that a disease which has for its principal and immediate consequence faulty elaboration of the ingesta should awaken cutaneous manifestations like urticaria, when we see temporary digestive disorder (*embarras gastrique* and indigestion) accompanied by the same eruptions. This urticaria, due to lesions or functional disorders of the stomach, is very probably a toxic urticaria, due to the fact that the skin serves as a route of elimination to the poison elaborated in the digestive passages, and taken up into the circulation. This, at least, is the rational explanation which M. Bouchard gave to this phenomenon in a paper recently read before the Faculty of Medicine. Dr. Comby tried, in a certain measure, to apply to the infants coming under his observation the results which were obtained from adults by Prof. Bouchard. The dilatation of the stomach, encountered so often among the latter, Dr. Comby had found with almost equal frequency among infants of the poorer classes, subjected from birth to defective alimentation. Among animals, also, he had found, as a consequence of dilatation of the stomach, multiple disorders in many of the organs and tissues. The diverse eruptions grouped by authors under the name of "*gourmes*" (porrigo, scald head, etc.) appear with extreme frequency in little patients with dilatation of the stomach ; but of all these eruptions, that which had struck him most by its objective and subjective characters is urticaria, of which he reports five cases.

89. THE Galvano-Cautery as an Effectual Treatment of Diphtheria.—That all therapeutic interferences at present employed in diphtheria play little more than a palliative rôle, without in any way modifying the diphtheritic process itself, is unfortunately an indisputable fact with all clinicians and practitioners. To look for new remedies of the vegetable or mineral kingdom, or the products of the chemical laboratory, which might possibly exert a specific, or at least a salutary, influence over the affection, must at last appear a fruitless endeavor. Drugs do not and can not cure diphtheria, and other measures must be thought of, unless we wish to abandon our patients wholly to the mercy of this dreaded foe.

Almost simultaneously, and certainly independently of each other, the report of the successful exhibition of a new remedial procedure, viz., the galvano-cautery, comes to us from two different quarters. Dr. Bloebaum presented his experience with the galvano-cautery in diphtheria in a recent number of the *Deutsche Medizinische Zeitung* (p. 973, 1885), and expresses his unqualified satisfaction with the results obtained, while in the *Rivista Venet.* of November, 1885, we find a similar eulogy of this treatment by Dr. Tedeschi (*Comunicazione Preventiva del Dott. v. Tedeschi di Trieste*).

These authors declare that the application of the galvano-cautery does not produce the slightest pain, as the diphtheritic membrane is of course void of sensibility. At the mere touch of the glowing wire the membrane rolls up and falls off. Tedeschi emphasizes the fact that the once cauterized portion never again assumes a diphtheritic nature, and the application forms at the same time a positive check to the extension of the process over the neighboring parts. After the application of the cautery the fever is found to be sinking, and frequently to wholly disappear after two to four hours. At the same time the glandular swelling on the neck and the œdema of this region are decreasing.

The scab resulting from the cauterization falls off in eight to fourteen days, and nearly always with ample suppuration. In the first couple of hours after the application ice is found to be a useful means to limit the inflammation; later, injections of aqueous vapor are indicated to favor a rapid dissolution of the scab. Irrigations with lime-water proved a useful adjuvant to this treatment.

Unfortunately, our author has not stated how many cases have been treated by this application of the cautery. But in the face of our present therapeutic impotency in diphtheria, the method deserves earnest but cautious trial. In conclusion, we recall that the galvano-cautery is not an entirely new application in the treatment of diphtheria, but has as early as in 1857 been recommended by French military surgeons in a communication to the *Union Médicale*.—*Ed. Thera. Gazette*.

- 90. *THE Treatment of Infantile Paralysis*.—The clinical features of the common and distressing affection known as infantile paralysis, essential paralysis, and progressive paralysis, are familiar to everybody, but the treatment has always been difficult and uncertain. In a lecture recently delivered by Dr. William Murrell, a plan of treatment has been formulated which, it is to be hoped, may prove as successful in other hands as it appears to have been in his own. The treatment consists essentially in the administration of aconite during the acute stage while fever is present, followed, after the lapse of three or four days, by physostigma, combined still later with suitable doses of phosphorus. So

much for the medicinal part ; but, simultaneously with the latter portion of the treatment, recourse must be had to massage, not the massage ordinarily in use, which frequently proves inefficacious, but a massage conducted on the scientific plan laid down by Metzger, of Amsterdam, and Von Mosengeil, of Bonn. When the cases are taken in hand early, a marked improvement is promptly perceived, the temperature of the affected limb approaches the normal, and the nutrition of the tissues acquires a fresh stimulus. How massage applied to the limbs can affect the pathological processes in the spinal cord is not quite clear ; but it would seem that, if the nutrition of the paralyzed limbs or groups of muscles can only be maintained for a sufficient length of time, other motor nerve-cells in the anterior cornua of the cord may be called into play. This view is not without a clinical parallel in the subsequent acquirement of the faculty of speech by patients whose previously existing centre has been destroyed by hæmorrhage, embolism, or thrombosis. It is essential that the massage should be conducted on a dry skin, with dry hands ; and it is not altogether improbable, under these circumstances, that, as Reihmayer of Vienna suggests, the current of electricity so created may be one of the factors in the results obtained. The massage should only be resorted to by the advice and under the supervision of, a medical man, as indiscriminate massage is not only likely to be useless, but may be positively injurious. Combined with the foregoing scheme of treatment, recourse may be had to such further adjuncts as hot pine-baths, the hypophosphites, extract of malt, and cod-liver oil, etc.—*Brit. Med. Journal*.

91. REMARKS on Incontinence of Urine in Children. DR. WILLIAM H. DAY, in the *British Medical Journal*.—There is scarcely any disease occurring among children more annoying and troublesome than incontinence of urine. It is particularly vexatious to parents, and is often regarded by them as an incurable infirmity. Failure in treatment is frequently owing (1) to an erroneous diagnosis of the cause of the affection ; (2) to the inefficiency with which the treatment is carried out ; (3) to its being discontinued too soon ; hence, in hospital practice, where patients can be watched, we meet with better results than in private practice.

Among the causes of enuresis, the following may be enumerated. If the urine be excessively acid, or loaded with urates, the bladder becomes overstimulated, and readily discharges its contents. If the bowels be habitually costive, or there be worms in the intestines, vesical irritation may ensue ; or, if the child be guilty of masturbation, there will be no chance of cure till the habit is corrected. Weakness of the muscular coat of the bladder from general debility or anæmia is a very common cause ; the bladder, not being able to tolerate any quantity of urine, readily excites the

motor apparatus. I have known a troublesome case follow typhoid fever in a boy, 10 years of age. If the disease be owing to a long prepuce, causing phimosis, it should be removed. Sometimes no cause can be ascertained. Children, two or three years of age, frequently wet the bed, either from laziness, or from lack of control over the bladder. It is important to remember that, even though the secretions are in perfect order, the incontinence may continue ; and thus a habit may be formed, which the poorer classes and stern people occasionally endeavor to correct by punishment. In some idle and dirty children, such a course may be of benefit ; but in others, who are nervous and timid, there is the possibility of increasing the evil we desire to remove. I make no allusion to those cases of enuresis associated with disease of the bladder or brain. It seems impossible to lay down a plan of treatment for general adoption ; the peculiarities of constitution and habits of life must be taken into consideration, and haphazard treatment guarded against. With respect to the utility of faradism there can be no question ; it requires to be used regularly, and to be continued for a considerable time, but it sometimes fails altogether. When the nervous system is weak, and there is general debility, the sphincter loses its power, and urine escapes by night and day without the child's knowledge. It is in such cases as these that iron and nux vomica are of service.

If there be excess of muscular action, and the child have frequent inclination, without power of control, belladonna is an admirable remedy. It occupies a prominent place as a therapeutic agent, and sometimes, when combined with iron, even in small doses, it seems to do good ; but it should not be given up in obstinate cases, till either soreness of the throat is produced, or dilatation of the pupils takes place. In my hands it has often failed when administered in any form or dose. It certainly tends to lessen irritability of the bladder, and should always have a fair trial.

Cold sponging in the morning is very serviceable in cases of enuresis that appear to have their origin in general debility. It braces up the nervous system, and is a powerful tonic. The slight sensation of chilliness soon passes away, without leaving any depression, if vigorous friction with a towel be employed for a few minutes. In a case under my care about three years ago, the cure was attributed to this simple measure, when one remedy after another had failed. The vital functions are brought into a healthier state, the skin acts better, and the appetite and digestion improve. However delicate a child may be, free sponging in tepid water, followed by a good rubbing is of great value. The water may be used at a temperature of 90° at first, and as the child becomes stronger may be lowered to 70°.

Now, a word as to diet. Milk is an important non-irritating article of food, and should be mainly relied upon in these cases ;

but the quantity given at one time should be restricted, especially on going to bed. Farinacious puddings, containing eggs, are admissible. When the urine is turbid and acid, or the child is rheumatic, milk ought to take the place of nitrogenous food. A child, under my care at the present time, with "a large white kidney," is troubled with frequency of micturition when allowed a little beef tea, while, when adhering to the milk, she only passes urine twice, or at most three times in the twenty-four hours. In states marked by anæmia and general debility, however, animal food is an essential article of diet.

THE LIBRARY TABLE.

Books received :—Psychiatry : G. P. Putnam's Sons. How We Treat Wounds To-day : G. P. Putnam's Sons. A New Departure in Uterine Therapeutics.—The Dry Treatment ; by G. J. Engelmann, M.D. Insidious Septicæmia.—A Rare, Deceptive, and Fatal Form of the Disease ; by G. J. Engelmann, M.D.

Psychiatry, A Clinical Treatise on Diseases of the Fore-Brain, based upon a study of its structure, function and nutrition ; by THEODOR MEYNERT, M.D., Professor of Nervous Diseases, and Chief of the Psychiatric Clinic in Vienna. Translated under the authority of the author by B. SACHS, M.D., Instructor in Diseases of the Mind and Nervous System in the New York Polyclinic. Part I. The Anatomy, Physiology, and Chemistry of the Brain. New York and London : G. P. Putnam's Sons. 1885.

THE term psychiatry, meaning "treatment of the soul," implies more than the author of this work believes he can accomplish, "and transcends the bounds of accurate scientific investigation," and the designation he would therefore give to the morbid affections of the fore-brain, the term Diseases of the Mind. The first part of the work, which treats of the anatomy, physiology and chemistry, the fundamental studies, indispensable as they are to an understanding of the clinical manifestations of mental disease, while important and necessary, does not possess the fascination that appertains to the psychical phenomena that we comprehend under the term mind. With the thoroughness so characteristic of the Germanic nations, the first portion of the work has been exhaustively treated; the contents comprising the Structure and Architecture of the Brain, the Minute Anatomy of the Brain, Anatomical Corollaries and Physiology of Cerebral Architecture, the Nutrition of the Brain, with an appendix on the Mechanism of Expression. In treating of the theory of predisposition and particularly of the doctrine of heredity the author draws a distinction between those who are possibly "called" and those who are

"chosen" for disease. In its entirety the work will be a notable contribution to the study of mental disease. The typography and presswork sustain the well-earned reputation of the house.

How We Treat Wounds To-day. A Treatise on the subject of Antiseptic Surgery which can be understood by Beginners. By ROBERT T. MORRIS, M.D., late House Surgeon to Bellevue Hospital, etc. New York and London: G. P. Putnam's Sons. 1886.

THE author of this little work, who is a thorough believer in Antiseptic Surgery, has presented in a concrete form the way in which wounds should be treated to secure the best results, shooting his facts like bullets against the mark, without waste of time or space. To the general practitioner who is called upon at times to treat wounds, it will prove of decided interest, as not only an earnest defense of "Listerism," but also as containing the latest modification of that system.

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Gynæcology.

92. *OVARIAN Displacements.*—T. M. MADDEN, F. R. C. S. Eng.—Displacements of the ovaries, apart from those caused by disease, were long completely ignored by gynæcologists, and even yet receive less consideration than from their comparative frequency and pathological importance should be the case. From clinical experience I have been long convinced that ovarian hernia and prolapse are both much more common than they are generally supposed to be. In every-day gynæcological practice a certain proportion of patients complain, *inter alia*, of dull, sickening, left-side pain, usually referred to left inguinal region. And in many instances, if further investigation and physical examination be then made, this may be found traceable to some ovarian displacement, which too often is passed over without inquiry or recognition, owing to greater prominence of other co-existing symptoms. Ovarian hernia may be inguinal or femoral, though more frequently the former, appearing either as a direct hernia in the inguinal or femoral regions, or in the more usual oblique form, making its way through the canal into the labium. Still more common, however, than either of these herniæ is the prolapsus of the ovary, and more especially that of the left ovary, into Douglas's space, where it may be discovered on examination as a small, oblong, dense, and highly sensitive tumor in the post-cervical recto-vaginal fossa. Although in some instances congenital and occasioned by similar causes to other forms of hernia, ovarian hernia are much more usually the result of the violent muscular efforts of the second stage in cases of difficult labor, and most frequently are observed in multipara whose abdominal parietes have been relaxed and viscera compressed by their repeated gestations. But in the most common form of ovarian displacement, viz.: that downwards into Douglas's space, the causes are more generally

gynæcological than obstretical, the ovary being either extended from its normal position by the *vis-a-tergo* of abdominal, uterine, or peri-uterine tumors or enlargements, or else dragged down by the tension of uterine displacements on the ligaments. The *symptoms* of ovarian displacement are the sudden occurrence in either the inguinal or femoral regions, the labia, or in the recto-vaginal fossa of an ovoid tumor, which in its ordinary condition is usually about the size of a small walnut, which just before the menstrual period becomes enlarged, as in one case recently in my hospital to the size of a Tangerine orange, and this gives rise to a dull, aching pain, which in the interspace gradually subsides until the functional activity of the displaced gland is again stimulated by the approach of the next catamenial epoch. In some instances, however, the dull sickening pain and discomfort thus occasioned never subside but increase to an unbearable extent until relieved by appropriate treatment. Formerly ovarian herniæ were generally mistaken for enlarged inguinal or femoral glands, or labial abscesses, as well as for other hernial protrusions, whilst ovarian prolapsus into the recto-vaginal space was then, in like manner, confounded with pelvic abscess, hæmatocele, sub-peritoneal fibromata, or even as the retroverted or retroflexed fundus uteri. From enterocele an ovarian hernia may be distinguished by not being smooth and globular, nor giving rise to gurgling on compression, or resonance on percussion, whilst from epiplocele it may be differentiated by absence of the peculiar soft, doughy feeling, and irregular, ill-defined outline of the latter. From enlarged inguinal glands a displaced ovary may be diagnosed by the smaller size and simultaneous appearance of several glands in the same situation in the former case. From pelvic, psoas and other abscesses in the groin, ovarian herniæ may be recognized by the history of the case and the physical character of the firm, ovoid, well-defined tumor, if ovarian. The *treatment* of ovarian protrusions must obviously be dependent on the situation of the displacement, *i. e.*, whether it be at either of the abdominal rings, or downwards into the labium, or into the recto-vaginal fossa. In the first form, whether the ovarian hernia be above or beneath Poupart's ligament, an effort should primarily be made to reduce it, if possible. In the majority of cases, however, these herniæ are not reducible when seen by the gynæcologist, and even in those which are reducible the pressure of a truss is neither endurable nor effectual. And in the majority of cases we must be content to protect the hernia from any further protrusion or external injury by a well-fitting hollow truss. Before the application of this an attempt should be made to lessen the local hyperæsthesia by topical sedatives, poultices, etc., or, if necessary, by leeching. At the same time this constitutional irritation, always present in all ovarian displacements, should be allayed by free doses of bromide of potassium, which may generally be combined with tonics in these

cases. A prolapsed ovary in Douglas's space may be distinguished from a posterior uterine displacement, or tumor, by recto-vaginal examination and the use of the sound, whilst in the differentiation of this condition from a tumefaction caused by cellulitis, rectocele, a small parovarian cyst, or a pedunculated fibroma, the same methods of examination will enable us to determine not only the presence of any uterine malformation, but also the character of the tumor and the existence of any fluctuation. If the uterus be found normal in size and position, and if there be no fluctuation, in the case of any small, well-defined, firm ovoid tumor in this situation, which, on being touched, gives rise to a peculiar dull, sickening pain, we may confidently conclude that we have to deal with a prolapsed ovary. When, however, such measures prove ineffectual to relieve the intolerable constant, dull, aching pain, aggravated into acute suffering at each monthly recurrence of the menstrual period, when the patient complains of marked gastric irritation, and repugnance to all food is increased to positive sickness of stomach whenever the tumor is touched, and when her health is thus broken down, and her life imperiled by the consequence of this apparently trivial and too often neglected displacement, then we should urge the extirpation of the dislocated and probably diseased gland, in whatever situation it may be extended.—*Med. Press and Circular.*

93. CANCER of the Uterus, Clinical Diagnosis.—DR. ARTHUR W. EDIS. *Reported in the British Med. Journal.*—The following cases which are of interest to all who are liable to be called upon to give an opinion in similar cases. The first two patients were admitted under my care in the course of one month, and the two together represent two years and a half of much suffering and severe mental anxiety. Both of them were condemned to death as guilty of suffering from an incurable malady; and, although in one case it was carried to a court of appeal, the verdict was upheld, when possibly a little more systematic consideration of the case might have led to a complete acquittal, such as I have now the pleasure of recording.

CASE I.—S. D., aged 44, widow, the mother of four children, the youngest 16 years old, had been always delicate, but enjoyed fair health until three years ago, when she suffered from profuse periods, pelvic pain, and discomfort. About two years ago she became subject to violent attacks of pain in the lower abdomen, with a forcing sensation two or three times a week, particularly after exertion. She had continuous pain in the left side, where a hard lump could be felt in the iliac region. Twelve months ago, an unusually severe attack was accompanied by collapse and profuse hemorrhage, necessitating her remaining in bed for a month. She then went to one of our large metropolitan hospitals, and was recommended to go to the Brompton Cancer Hospital, where she

was admitted on October 31, 1884, and remained in until February 24, 1885.

In September, 1885, she fell and injured her side and face. She presented herself in the out-patient department of the Middlesex Hospital for these injuries, and was admitted to a surgical ward. She then stated that whilst straining at stool on the morning of admission, she felt something come down, and found a swelling protruding from the vagina. When first seen, her condition seemed very deplorable. She was emaciated, with a sallow complexion; her lips were pale; her countenance anxious; the eyelid was ecchymosed from the fall. She lay on her side, groaning and complaining of severe abdominal pain. She was much collapsed, with small pulse, 108.

On examination, a tumor, of the size of a small fist, was found protruding from the vulva; it was globular in shape, and firm to the touch, like a fibroid. It was apparently very sensitive, the patient complaining much on any attempt at manipulation. For this reason, chloroform was administered in order to allow a thorough examination. On passing the finger within the vagina by the side of the tumor, the rim of the cervix uteri could be felt surrounding the pedicle, which appeared to be unusually large. On conjoined manipulation, no fundus uteri could be detected in the usual position above the pubis. The uterine sound passed only about three-fourths of an inch beyond the rim of the cervix, and could not be made to pass beyond this. The opinion formed was that a fibroid of the fundus had partially inverted the fundus uteri; and, it being feared that if an *écraseur* were applied a portion of the fundus would be included, Aveling's repositor was adjusted, after the mass had been returned within the vagina, and efforts were made to reduce the inversion. Persistent efforts failing to accomplish this, the *écraseur* was subsequently applied, and the tumor removed. It was found to be a fibroid tumor, the pedicle being about three-fourths of an inch in diameter. The uterine sound could then be passed three inches beyond the rim of the cervix, showing that the uterus was not inverted, as at first imagined. The direction in which the sound entered was upwards and backwards, the uterus being retroverted, thus explaining why the fundus could not be detected on conjoined manipulation on the first examination. The pedicle sprang from the anterior wall of the uterus, about an inch within the cervix.

The patient subsequently convalesced without a bad symptom, and left the hospital greatly improved in health.

CASE II.—C. G., aged 49, widow two years; mother of five children; four miscarriages. Her last confinement at term was eighteen years ago; the miscarriages occurred subsequently to this, the last being six years ago, each of them about the third month. After the birth of her youngest child, the patient suffered severely from sore-throat, and her hair came out very much at

this time. The catamenia had always been regular until the last two years, lasting about a week, attended by considerable pain in the back.

In May, 1884, the patient had a severe attack of flooding, coming on at the menstrual epoch, and lasting about a fortnight. As a result of this loss, the patient was confined to bed for six months, and during this time she lost a considerable quantity of blood at each menstrual epoch, the pain in the back at these times being greatly aggravated. Since Christmas, 1884, she had been confined to the house, feeling very weak, but the menorrhagia had not been so severe, and the pain had also been less, while, for the last two months previously to admission to Prudhoe ward, there had been no sanguineous discharge whatever.

For about twelve months the patient had had an intermenstrual discharge, slightly tinged with blood at times, but generally of a whitish color and quite odorless, except on two occasions, when, for a couple of days, the discharge was offensive.

The practitioner who was called in at the date of her attack in May, 1884, pronounced the case to be one of cancer, and that nothing could be done to arrest its progress. She accepted the verdict with perfect resignation, and awaited the end, which seemed very long in coming. It was only about two months before admission, when the hemorrhage ceased, the appetite increased, and the general health began to improve, that she ventured to question the opinion expressed nearly eighteen months before, and asked her medical man whether it was possible he could have made a mistake.

On admission, on Sept. 26, 1885, the patient was seen to be of spare habit of body; her countenance was anxious, her complexion somewhat sallow, anæmic. The tongue was moist, and clean. The chest-sounds were fairly normal. The heart's action was weak; there was no *bruit*. Several *tâches de Morgan* were visible on the chest and abdomen; the organs were apparently normal; there was some tenderness in the iliac fossæ.

On vaginal examination, the uterus was found to be bulky, somewhat less mobile than normal. The cervix was excessively bulky and expanded, with large prominent nodules, partly due, no doubt, to antecedent laceration of the cervix in some previous confinement, but also to hypertrophy of the follicles of the os uteri from occlusion. The surface of the vaginal cervix was soft and smooth to the touch, bathed with a thick tenacious mucus, perfectly odorless. The os uteri was sufficiently patulous to admit the tip of the finger, the cervical canal being granular, but not giving rise to hemorrhage, even after several examinations. The vaginal cervix projected only about half an inch beyond the vaginal *cul-de-sac*, and was so enlarged in bulk, that only a portion of it could be brought within view when an extra large speculum was introduced. It measured nearly three inches in diameter.

The case was evidently one of hyperplastic induration and enlargement of the cervix, with laceration and hypertrophy of the follicles. The history given of her condition eighteen years ago, after her last confinement, more than suggested the possibility of syphilitic taint. The duration of the symptoms, nearly eighteen months since the first attack of flooding, with the absence of any ulceration of the cervix, or friability of tissue, or bleeding on examination, or infiltration of the lumbar glands, or neighboring tissues, precluded the diagnosis of cancer. In justice to the practitioner who first diagnosed the case as malignant, it is but fair to say that the case so simulated one of epithelioma of the cervix, as to make the diagnosis one of unusual difficulty.

The result of treatment was entirely confirmatory of the diagnosis arrived at. The employment of the hot vaginal douche twice daily, packing the vagina continuously with glycerine tampons, scarification of the cervix, when several follicles were punctured, allowing thick inspissated mucus to exude, hot water injections, the occasional application of iodine liniment, nitric and carbolic acids, attention to diet, together with reprieve from prolonged sentence of death, all combined to produce such marked improvement, that, in less than a month from the date of admission, the cervix was reduced to nearly half its former size, and before leaving was, to all intents and purposes, fairly normal. Convalescence in this case was tedious, owing to the deteriorated condition of her general health, from long confinement to bed. The circulation was exceedingly feeble, and her powers of assimilation much impaired. She left the hospital on December 17th.

Since writing out the above notes, two other cases have been admitted into the Middlesex Hospital, both certified as cancer; one was a purely hysterical patient; the other an evident example of malingering. Brief notes may prove of interest.

CASE III.—R. F., aged 34, single, a nurse, was admitted into Whitbread ward on November 19, 1885, certified as suffering from cancer of the uterus and ovaries. She gave up work three years ago, on account of persistent vomiting and retching. She had taken morphine, occasionally, for about two years, to relieve the pain. The abdomen was uniformly distended, tympanic. The uterus was perfectly normal in size and position; there was no pelvic abnormality. A small mucous polypus protruded from the cervix uteri. She had been an in-patient in Guy's Hospital seven years ago, for displacement of the uterus. On anæsthetizing the patient, the abdominal enlargement entirely disappeared. All morphine injections were discontinued. Nutrient enemata were administered; no food being given by the mouth for several consecutive days, until the sickness had entirely abated.

CASE IV.—M. A. G., aged 50, married seventeen years, mother of six children (youngest 9 years old), eighteen months ago began

to suffer with bearing down pains in the back and lower abdomen. From the last twelvemonth she stated she had suffered from vaginal discharge, often tinged with blood, but not offensive. She had had vomiting after food, the last five months, and was losing flesh. The bowels were very confined; she had occasional dysuria, and pyrosis. She had been in a provincial hospital for five months, before coming to the Middlesex Hospital. The abdomen was distended, tympanitic; she said it was painful on pressure. The uterus was normal in position, less mobile than natural. The cervix was fissured. There was granular erosion round the margin of the os. There was no evidence whatever of cancer. She was discharged at the end of a fortnight. The diagnosis was chronic dyspepsia, and malingering.

Remarks.—My object in publishing these cases is solely to impress upon my professional brethren the extreme importance of weighing most carefully all the facts of the case, before announcing a patient will die. If the practitioner be not in the way of seeing uterine cases, or the symptoms be such that he has the least doubt as to the nature of the malady, let him call in, or refer the patient to, some competent authority, before condemning her as suffering from a hopeless disorder. The mere coincidence of these two cases being in the ward at the same time suggested the publication of them as a warning to all. Before subjecting a patient to incarceration in a lunatic asylum as of unsound mind, two separate and distinct certificates, by two independent medical men, are requisite to sanction such a step being legally taken; and yet it too often happens that a patient is pronounced to be in a helpless state from a most terrible malady, entirely at the discretion of any one practitioner. Not a year passes without my seeing numbers of such cases, not only in hospital practice, but also in private, where I have been enabled not only to reverse the verdict, but to treat successfully the condition which gave rise to the mistake. It occasionally happens that patients are sent to the cancer-wards at the Middlesex Hospital, as suffering from cancer, when no trace of such a condition can be detected; and the patients are returned to their homes, within a very brief period, to their own joy, but to the practitioner's dismay.

In looking through my private case-book, I find that the most simple conditions have been mistaken for cancer. One patient presented herself, where the pain and hemorrhage were due simply to an entire absence of molar teeth. Imperfect mastication, colicky pains, deterioration of health, and emaciation followed. The condition was entirely relieved by the insertion of a set of artificial teeth, proper regulation of the diet, and the administration of a light tonic. The uterus was merely chronically hypertrophied.

Pregnancy, with an intensely granular condition of the cervix, where there is a copious vaginal discharge, seems to be one of the

conditions by no means unfrequently mistaken for cancer, more especially if there have been any symptoms of threatened abortion, or even hemorrhage from a granular cervix.

Fibroids in various stages, during expulsion, and in process of sloughing, or when extruded into the vagina, as in case No. 1, seem also to puzzle the practitioner.

Retained products of conception, overlooked abortion, where some laceration or granular condition of the cervix uteri exists, simulate cancer in some instances.

Even hemorrhage and pain from a vascular caruncle of the urethra, where a fibroid tumor coexisted, gave rise to a most deplorable mistake in one instance.

Pelvic hematocele, diagnosed as cancer, figures in several instances; the peculiar hue of the complexion typical in cases of hematocele being mistaken for the cancerous cachexia, more especially when the pain and hemorrhage are severe. One case presented apparently such manifest symptoms of cancer, that an error in diagnosis seemed impossible. A "cancer-crater," admitting the finger, a rough, hard, friable surface, bleeding readily on touch, incontinence of urine, and a most foul vaginal discharge, seemed to leave no room for doubt; but the detection and removal of a forgotten pessary, introduced many years before, imbedded in the anterior vaginal wall, and having ulcerated through into the bladder, not only relieved the symptoms, but removed "the cancer."

Chronic hypertrophy—the areolar hyperplasia of Thomas—where the cervix is lacerated, and the pain unusually severe, contributes a fair number of cases of error of diagnosis.

Inversio uteri, although comparatively rare, should not be forgotten. The history will generally keep us from error.

Pelvic cellulitis following parturition, where the cervix is lacerated and ectropion occurs, may deceive the unwary, more especially if there be any placental débris and hemorrhage in consequence.

Endometritis, with a marked history of syphilis, where the cervix uteri is extremely bulky and the discharge very profuse, is by no means an uncommon cause of error.

Chancres upon the cervix uteri, although exceedingly rare, have yet led to serious mistakes being made.

In cases at all doubtful, the fact of free hemorrhage occurring on vaginal examination often enables us to determine the malignant nature of the affection. I regard this as one of the most reliable symptoms. The cervix may be lacerated, the edges everted, with an intensely granular degeneration of the mucous membrane; and yet, on withdrawing the finger, no trace of blood is detected, showing that the case is not malignant.

The age of the patient will also assist us. Cancer of the uterus is comparatively rare before 35, although I have seen fatal cases

so early as 26. After the menopause, if a patient begin to lose blood *per vaginam*, there having been an interval of a few years, the case is pretty sure to be malignant in nature, provided alcoholism can be excluded. We must not forget, too, that cancer does not invariably begin in the cervix uteri; it may arise in the fundus uteri. These cases are more numerous than generally supposed.

The nature of the discharge in cases of epithelioma of the cervix is generally very characteristic. It is not the usual muco-purulent secretion met with in many instances, where the cervix is merely the seat of granular degeneration, or the vagina is in a state of chronic inflammation. It is more of a serous or sero-sanguineous nature, having a peculiar characteristic pungent odor, acrid, and producing excoriation of the vulva and surrounding surfaces.

The character of the pain in malignant disease is different from that met with in mere chronic hypertrophy of the uterus, or granular degeneration of the cervix. In the former case, the pain is almost invariably worse at night, when the patient is lying down; whereas in the latter the pain is worse on standing, and relieved when the recumbent posture is assumed.

The so-called cancerous cachexia is not always a reliable symptom. It is often simulated in cases of hematocele, and where persistent or frequent recurring hemorrhage from a projecting intra-uterine fibroid or polypus occurs. Besides this, when the disease has advanced so far as to cause the constitutional cachexia, the local condition is generally so evident as to preclude any error in diagnosis.

94. PESSARIES: Indications for, and Methods for their Application.—In a clinical lecture by DR. H. K. LEAKE published in the *Texas Courier-Record of Medicine* he remarks as follows upon the subject of pessaries. My method of placing pessaries, is, so far as I can learn, different from that of all others who use them. The Sims' speculum dilates the vaginal canal and reveals to the critical eye of the surgeon its whole extent, thus enabling him to perform operations within its cavity with as much ease as those he undertakes on the exposed parts of the body. Why not utilize the same means for the perfect fitting and introduction of pessaries? For illustration, take a case of retroversion. The patient lies in Sims' position with the perineum well retracted by the speculum in the hands of a qualified assistant. The spirit lamp used in modeling your instrument burns brightly on a table at your left hand. You now introduce well into the cavity of the uterus, the Elliott or Emmett's repositor, and reversing the action of the instrument, you have the satisfaction of witnessing the organ revolve, right under your eyes, into its normal position. The repositor being now withdrawn it is re-

placed by the sound, the handle of which is given to the assistant, who hold the uterus in its new position, until a pessary can be fitted to the conformation of the vagina and cervix. Experience will enable you almost at a glance to determine the size and shape of the pessary required. Having heated the hard rubber over the spirit flame, its curves are unbent or increased, its fenestra widened or narrowed, or any other form given the instrument, which is desirable, before leaving it permanently in position. Resuming control of the sound, its handle is passed through the fenestra of the pessary and the latter strung along the continuity until the cervix is reached, when by tilting up the lower end, or depressing the upper bar, the latter glides readily in position up behind the cervix; after which the sound is withdrawn and the speculum removed. The patient is now made to stand erect and is subjected to a final examination. The index finger, well lubricated, being introduced into the vagina and carried up to the vault, is swept around the cervix, noting the position of the pessary and effect, if any, produced upon the affected organs. This plan of fitting and introducing pessaries seems to be the most rational of any yet recommended. Indeed, I do not see how it is possible in any other way to conform the outlines of the instrument to the anatomy of the vaginal walls and cervix, and thus meet the exact requirements of each case. The same position is to be recommended also in re-examining and re-fitting pessaries, the precaution being to inspect them before removal.

All patients who have had pessaries introduced for backward displacement should be instructed in the knee-breast position advised by Dr. Campbell. They should assume this for at least five minutes night and morning. By this rational procedure the strain upon the pessary is lessened somewhat, thereby assisting its traction-lever power. Moreover, the blood, which has yet a tendency to stagnation in the weakened and dilated vessels of the displaced uterus, as well as other organs contiguous thereto, flows out and seeks remote areas in the head and trunk of the body, which is placed by this manoeuvre on a lower level. Thus the weight of these organs is diminished, a better circulation favored in them, and much comfort, if even for a short time, afforded the patient. A special injunction should, for obvious reasons, be giving regarding the rectum and bladder, which should be kept as empty as is consistent with health; and all straining and lifting interdicted. Corsets should not be worn and the under garments must be suspended from the shoulders. Vaginal injections of hot carbolized water should be directed once daily at least, and in using them a large amount of water employed; but care will be necessary in taking them lest the pessary be floated from its position by the force or largeness of the stream. The syphon syringe is, except in special cases, to be preferred. Iron tonics should be regularly administered; those containing strychnia being the best

—its special action is assumed, being exerted upon the muscular tissue of the uterus as well as that of the ligaments.

The following conclusions seem warranted from the foregoing discussion of this subject:

First. That, while there exists great difference of views as to the expediency of using pessaries, the practical gynæcologist also is influenced in his opinions by his own individual experience, and will not servilely bow to the authority of those, who perhaps, rejected such aids on insufficient grounds.

Second. That the classical pressure symptoms, including weight in the pelvis, sacralgia, bladder and rectal irritation, difficulty and pain on locomotion, dragging pains in hips and lower abdomen, etc., combined or uncombined with systematic effects, are relieved by a skillful adjustment of pessaries, and must be continued to be held as an indication for their employment.

Third. That, in all cases of anæmia, neurasthenia, hysteria, presenting themselves, the cause may be located in some displacement of the pelvic organs, and this point should be determined by immediate examination.

Fourth. That due regard must be had to the natural mobility and normal position of the uterus in the placing of pessaries.

Fifth. That, contrary to the general view, retroflexion can be redressed and maintained in position by a skillful adjustment of the traction lever pessary.

Sixth. That pessaries should be fitted and placed with the patient in Sims' position, this being the most favorable for such procedure.

Seventh. That, while the evidence thus far has been discouraging as to the curability of uterine displacements by means of pessaries, we must, at least, acknowledge their powerful aid as palliatives, and we are justified in believing that the future statistician will demonstrate their greater efficacy in tables showing permanent results.

95. MURIATE of Cocaine in the Treatment of Nymphomania. By T. PARVIN, M. D. *Reported in The College and Clinical Record.*—The case was one of general pruritus, involving the entire surface of the body, a most annoying itching, and no eruption explaining its occurrence. She tells us that she is almost completely relieved. The treatment consisted in the use of a milk diet, and five to ten drops of Fowler's solution, to be taken three times a day. In addition to this, you will find, in cases of general itching without eruption, the use of warm bran or gelatine baths, very soothing. Itching of this character is sometimes met with in pregnant women; Stoltz has given a graphic description of such cases. But neither in those nor in this can any explanation of the cause of the itching be given. The treatment directed was purely empirical, but it was successful.

The trouble for which this woman first came to the clinic was nymphomania. This has been treated by the use of sedative applications to the two chief centers of sexual erethism or pleasure in the female. These centers are the clitoris and vagina. In sexual congress these are subjected to such increased congestion that each becomes swelled, and erection occurs in one: masturbation in the female, also is done by artificial irritation of the clitoris or of the vagina, or of both. A third center has been suggested, that is, the female nipple, and, according to Cabanis, some women assert that when the infant is sucking they experience a pleasure, with some similar sensation, in the genital organs. When first examined three weeks ago, in consequence of the complaint she made of a pain in the womb, there was at once erection of the clitoris and contraction of the vaginal sphincter, not merely of the lower sphincter, but also of the upper sphincter, constituting vaginismus superior. This latter form of contraction, when excessive, may not prevent coition, but may not permit the withdrawal of the penis; in some cases this violent contraction of the upper part of the anal levator is under the control of the will. Both varieties of vaginismus existed, to some degree, in this case.

The treatment consisted in the direct application of muriate of cocaine to these centers. The vaginal spasm and the other symptoms have been greatly relieved. I believe that this is the first time that muriate of cocaine has been used for this purpose, and the results have been such as to justify its application in other cases. It seems to me an entirely rational way of treating this disorder in certain cases. It lowers the exalted sensibility of the two chief centers of sexual pleasure; not only lowers that sensibility, but blunts it.

96. LACERATION of the Os and Cervix Uteri, and the Operation of Trachelorrhaphy.—DR. GRAILY HEWITT on this subject, says in the *British Medical Journal*:

The operation is indicated by the presence of considerable hypertrophy of the os, the result of laceration, and the more so if hypertrophy and eversion be conjoined; by the presence of chronic severe local pain, evidently traceable to the irritation of a raw surface less extensive in amount, or traceable to cicatricial hardening at the bottom of the fissure; by the association of marked laceration with a troublesome displacement of the body of the uterus; by the presence of a severe recent laceration, even in cases where no severe symptoms have had time to develop themselves, with the view of preventing (1) cellulitis; (2) the occurrence of cancer; (3) the supervention of symptoms generally; lastly, by the presence of general severe prostration, inability for locomotion, etc., obviously traceable to laceration.

The operation itself is not, in most cases, a difficult one, but in some cases it is so. In assisting to hold the cervix down, I

have found the large tenaculum hooked forceps, depicted in the last edition of my work on *Diseases of Women*, made by Mayer and Meltzer, of very great utility. Sometimes the nodular hypertrophy renders co-aptation of the edges, after parting them, not easy, owing to one side of the rent being very short, the other very long. Another difficulty is, in some cases, the excessive hardness of the tissues to be perforated by the needle, which is sometimes so great that much force is required to penetrate the tissues. The needles need to be very strong for such cases. I have found No. 6 silver wire most suitable for sutures, and have generally removed them in not less than ten days. Probably it would be better to leave them a week or two longer, in cases where the patient is very weak and nutritive action feeble. The importance of a preparatory treatment before proceeding to the operation has already been pointed out.

97. STERILITY and Antelexion. DR. T. PARVIN in the *College and Clinical Record*.—I have next a case of antelexion associated with sterility to present to you. In this patient there is no dysmenorrhœa. Although the patient has been under treatment for some time in the dispensary, Dr. Morris states that he has been unable to succeed in passing the sound. The patient is thirty years of age, has been married six years, and has never been pregnant. It is in cases of sterility with antelexion that the most remarkable results are obtained from dilatation. When consulted with reference to sterility in the female, and you fail to find any obvious cause for this condition, in displacement of the uterus, uterine catarrh, vaginismus, atresia or stenosis of the genital canal, you should bear in mind that the trouble is probably with the husband. Dr. Gross, in his excellent work on Sterility in the Male, has given statistics showing that in one out of every six cases the male is at fault. I do not know that these statistics present the absolute truth in regard to the matter, but they come sufficiently near to show that in a considerable proportion of cases, sterility is dependent upon some defect in the male.

The term sterility is used with different significations. For example, at the last lecture I presented a patient who is sterile in this respect—she did not give birth to children, although she conceived. She had had five miscarriages within three years. The probable cause of this was a displacement of the uterus. That was a case of *impotentia gestationis*; pregnancy began, but was arrested, abortion occurring because of retroversion of the womb. Gestation was impossible. In the patient before us we have an example of *impotentia concipiendi*. The inability to conceive may here be due to this flexion, or it may be dependent upon the associated catarrh.

Even when flexion is found, do not be in too great haste to conclude that the spermatozooids cannot find entrance into the womb.

Being microscopic in character, they can pass through a very small opening. When dilatation is resorted to in these cases, the whole benefit is not due to the removal of the mechanical hindrance, but the operation changes the vital conditions of the uterus, and it is often in that change and the cure of the uterine catarrh, that benefit is obtained. The discharge from this catarrh may be so great as to wash away the seminal fluid, thus preventing the entrance of the spermatozoids. In other instances this secretion is changed in character. The spermatozoids move freely in an alkaline solution, but a moderately strong acid solution proves fatal to them. The normal secretion from the uterine cavity and the cervical canal is distinctly alkaline, while the normal secretion from the vagina is slightly acid. I would suggest that in your examinations of women, you have at hand pieces of red and of blue litmus paper, in order that you may readily determine the reaction of the discharges. Where the discharges are found to be excessively acid, you have a probable explanation of the sterility.

Where ante flexion is associated with dysmenorrhœa, do not hastily conclude that the painful menstruation is dependent upon the flexion. It may or it may not be. The ante flexion may be cured, and yet the dysmenorrhœa remain. The probability is that it will disappear. In dysmenorrhœa dependent upon mechanical obstruction, we must not measure the amount of that obstruction by the condition we find during the inter-menstrual period. At that time the canal may readily permit the passage of the sound, but when the congestion and swelling incident to menstruation occur, the canal may be almost completely closed.

What does nature do under these circumstances? As the blood collects in the uterus, the uterus contracts and attempts to expel it. The characteristic of uterine pains, as you know, is their intermittency. Continuous uterine contraction is abnormal. In trying to overcome the obstruction the uterus contracts and relaxes, and thus successive waves of contraction, with intervening pauses, until finally it succeeds. Then, though the patient suffered agony in the beginning of the flow, during the last few days of menstruation she may be comparatively free from pain. The characteristic of pains due to uterine obstruction is not a general bearing down pain or a backache, but it is intermittent pains. In cases where the dysmenorrhœa is due to ante flexion, there will be this intermittency. This is, however, not an absolutely pathognomonic sign of ante flexion. There may be mechanical obstruction from other causes. For instance, it sometimes happens that a fibroid tumor or a polypoid tumor passes down, acting like a ball-valve and obstructing the canal. Just here let me give you an interesting practical fact in regard to polypoid tumors. In some cases the symptoms indicate the existence of such tumor, and yet you are unable to detect it; but if you make an examination during the menstrual period you may find it. Such a polypus is

sometimes called an intermittent polypus ; it makes its appearance at the mouth of the womb during menstruation, but recedes into its cavity in the interval. During menstruation it may be forced down to the external os by the contractions of the uterus, and be readily detected, while you might make a hundred examinations at other times and not discover it, unless you first dilated the cervical canal so as to expose the uterine cavity. The intermittent pains in menstruation may be pathognomonic of uterine obstruction, but they do not indicate the form of obstruction.

Here is a second patient with an anteflexed uterus. She has been married five years, but no children, and she comes, not because of any physical pain, but on account of her sterility. She does not suffer at menstruation ; the flow is normal in time and quantity ; but she has rather a profuse uterine catarrh, and it is possible such a copious secretion constantly discharging keeps the canal patent, and hence the absence of pain at menstrual periods.

98. IODOFORM in Uterine Catarrh.—KUGELMANN, having noticed that iodoform very promptly cures coryza and laryngitis, concluded that it would be beneficial in cases of uterine catarrh. He introduced the powder into the uterus by means of a very fine catheter. The applications were renewed twice a week, and with excellent results. The catarrhal hypersecretion diminished or ceased immediately in every case.—*Gazette Med. de Paris.*

99. VICARIOUS Menstruation.—At a meeting of the Sheffield Medico-Chirurgical Society held January 27, 1886, DR. WHITE, as reported in the *Medical Press* read the notes of a case of this nature which had recently been under his care, and which proved exceeding difficult to deal with. The patient was a little girl, æt. 14, the child of people in a good position of life. When first seen there were five deep fissures in the lips, from which the blood was flowing freely. The history was that they began as abrasions. It was impossible to stop bleeding except by direct pressure. At first constant, it afterward became periodic, appearing every two or four weeks, and with other symptoms pointing to connection with attempted menstrual periods which were not regularly established, and was very scanty when it did appear. Dr. White carefully examined the blood discharged from the lip, and said that it differed from ordinary blood both in smell and microscopical character, and that it strongly resembled menstrual discharge. A number of consultations had been held with leading London physicians and surgeons, as the bleeding persisted for months and the patient's life was threatened. There were as many opinions as men, no two opinions being alike. Every possible measure was adopted to improve the patient's general health, and to establish the menstrual periods. Some regarded the case as one of "lip hemorrhoid," others as "linear ulceration of the lips,"

yet others who regarded the case as one of self-inflicted wound, and the mischief perpetuated by self-inflicted irritation to the bleeding points. Syphilis was suspected, but denied, apparently frankly so. The girl's father was a thoroughly sensible man, with no nonsense about him. On the hint of self-infliction of the wounds being given, he set himself to watch his daughter closely, but thought there was not the slightest evidence to support the supposition. Finally Dr. White had the patient to his own house, chloroformed her, and cauterized the fissures deeply with nitric acid, with the satisfactory result that in a week's time they were healed and the bleeding arrested. After the operation the girl had a very high temperature and hysterical tetanus. The present condition of the lip shows only slight scars where the fissures had been. Dr. White notices that at the time for menstrual periods to appear the lip becomes deeply congested, as if the bleeding would burst forth again. Since the lip has been healed the menstrual periods have appeared regularly. There is no denying the hysterical tendencies, as since the lip has been healed there has been an attack of hysterical paraplegia, and immediately after the operation there was the attack of hysterical tetanus; but in spite of all this Dr. White does not believe in self-infliction of the wounds, and he does believe in the bleeding having been vicarious to ordinary menstruation.

The PRESIDENT thought the case a very curious and interesting one. He inclined to the view of self-inflicted wounds. He mentioned a case of a woman who applied carbolic acid to one of her nipples for the purpose of making it sore, and was most anxious to have the breast amputated. He asked if there was any hemophilia in the case.

Dr. KEELING disbelieved in vicarious menstruation, he had never met with a case in which it truly existed. He inclined also to the view of self infliction of wounds in the lip. He drew special attention to the benefit which was derived when the family physician took the case altogether into his own hands, and pursued his own methods of treatment. He was of opinion that it would be much better for the patients if family attendants would more frequently pursue a similar line of conduct.

Dr. BALDWIN mentioned the plan of ligaturing the artery at the commissure of the mouth by passing the ligature through the whole thickness of the cheek. When the necessity is passed the ligature can be removed.

In reply Dr. WHITE still maintained his belief in the theory of vicarious menstruation, although in reading his paper he was careful not to state it dogmatically that the case was absolutely one of this nature. He thought too little was as yet known about the nervous system and its aberrations to assert positively that such cases as the one he described are not due to vicarious menstruation.

100. PAINFUL Mammæ in Young Girls. DR. J. H. MORGAN in the *British Medical Journal*.—F. H., a healthy, well-made girl, aged eleven years and six months, was brought to see me at the Hospital for Sick Children, on account of great pain in the left mamma which had existed for nearly a twelvemonth, but had latterly become more severe. She was rather weak and overgrown, but otherwise she appeared to be in good health. There was no history of any blow or injury. The left mamma was very little larger than the right, yet there was a slight but decided swelling of the whole gland. She complained of continuous pain in this region, and the very slightest pressure caused her to wince. The mother stated that, at times, the pain was very severe, and there was no doubt, from the child's manner when seen, that this was the case. There was nothing to warrant the suggestion of hysteria. No catamenia had appeared, nor were there any other indications of their advent. It was stated, however, by the mother, that two elder daughters, by a former marriage, have found the catamenia appear at eleven and a half years of age, and both had premonitory symptoms, the one experiencing severe headache, which ceased upon the appearance of the menses, and the other suffered from a rash upon the body and a headache. In both these children there was no appearance of any flow for two years subsequent to its first occurrence.

The painful condition of the mamma in this child continued for six weeks, notwithstanding local and general treatment, during which time no alteration in the condition of the gland was to be noticed. There was no heat or redness of the areola, and there was but little enlargement; nor was any change observed in the appearance or condition of the nipple. At the end of this period, however, the right breast became afflicted in an identical manner.

For another six weeks—during which she was treated with aloetic purgatives, with iron, and with the local application of belladonna—the condition remained much the same; but at length it began to intermit, the pain disappearing for a few days and again recurring, until, at the end of the fifth month after I saw her, the symptoms disappeared; no catamenial show having then occurred.

In the last four years I have had several cases of this painful affection of the mammæ brought to my notice. The ages of the girls varied from ten and a half to twelve years, and most were tall and well formed. In five of the cases the left breast only was affected, and in one case the right, while both were consecutively the seats of pain in the cases above detailed. Seeing this more frequent tendency of the left mamma to become affected, it occurred to me that it might be due to the pressure of the chest against a desk in writing, and in or two of the patients this was thought a possible explanation, but in none of them did the pain

cease for many weeks after they had been kept from school or prohibited from writing.

All the cases remained under observation for many weeks, and I cannot say that they were much relieved by local or general treatment. The pain, as in the above case, became intermittent, and at last ceased. Some nervous symptoms were present in two of the children, one having been previously under treatment for chorea, which had not entirely disappeared, and another suffered from occasional headache, vomiting, and pain in the lower part of the abdomen.

I have been unable to meet with much information on the subject of this condition in any works on surgery, or in any special treatises on diseases of the breast, and I believe that the condition is a rare one from the few cases of its occurrence among the very large number of patients which come before me. The absence of any great heat, redness, or swelling, puts inflammatory conditions out of the question, and the age of the patients, the obstinate and chronic character of the pain, together with the slight enlargement of the gland, and its extreme tenderness on pressure, would seem to point to some developmental change in the structure of the gland, which accompanies, or may even precede, the changes which are doubtless commencing about that period of life in the ovaries and organs of generation, with which the mamma has so many sympathies.

101. UTERUS and appendages, diseases of.—LAWSON TAIT thus writes regarding the methods of diagnosis in diseases of the uterus and appendages. It is perfectly impossible for any novice in the diseases of women to obtain an accurate notion as to the condition of the vaginal mucous surface, of the os and cervix, and to some extent the interior of the uterine canal, without the constant, I would almost say the invariable, use of the speculum. It is also quite as impossible for that novice to form any notion as to the position of the fundus, or the relations of the uterus with the pelvic tumor, without the employment of the sound. But no practitioner of gynæcology can possibly be regarded, at least by me, as an accomplished specialist who uses either one or the other of these instruments with great frequency. I have found in my own practice, that just as my experience increased so did both of them become unnecessary, until, concerning the speculum, it is a fact that, unless I want to do some operation, or make some special investigation within or beyond the vaginal cavity, the speculum is never employed at all; and for the discovery of the position of the uterus and its relations, the sound has almost ceased to be an advantage.

It is perfectly impossible for me to convey by any kind of description how I can tell by the touch, an inflamed vaginal mucous surface from one that is healthy; neither can I describe the feel

ing that the everted surface of the cervix gives to me which declares the condition of chronic endometritis. But I know that my educated finger-tips can make this distinction. If, on the other hand, I discover a pelvic tumor, long practice enables me to tell with almost perfect certainty and without the use of the sound, that it is a retroverted fundus, or adherent tube or ovary, or by its fading away toward the broad ligament, on one aspect of the uterus or another, that it is an intraperitoneal hematocoele; while the peculiar resistance of a myoma conveys to my mind an accurate impression which needs no probing of the uterus to substantiate. So a cyst reveals itself in a way I cannot communicate. As a result of all this I very rarely use the sound.

As a matter of fact, I have found that these two instruments, the speculum and the sound, as methods of diagnosis, have been productive of uniformly more harm than good. That a blennorrhagic discharge from the vagina of any patient requires the introduction of a speculum is one, I am fully persuaded, of the stock beliefs of the great bulk of general practitioners. But it is certain that nothing of the kind is requisite, and a very large amount of mischief, there can be no doubt, has been produced by this belief. It is not at all an unusual thing for me, on taking part in a consultation with the family physician concerning some such case, to be told by him that he very much regretted that he had not made an examination by the speculum. Others have told me that they made the said examination, and when asked what they saw, or what they did, the answers usually given are that they did nothing, they merely made the examination; that is to say, they passed the instrument, and with that proceeding were perfectly satisfied—evidently under the belief that the passage of the speculum was quite as much a curative agent as a method of diagnosis. Similarly with the sound. I heard many practitioners tell me of their experience with the sound, or rather their want of it, and I judged that they looked upon it as a sort of magical charm, the introduction of which into the uterus was to achieve unmeasured good. As a matter of fact, the sound is one of the most dangerous instruments which ever were invented for the treatment of human suffering, and in my own practice obtains hardly any kind of employment at all.

There is a story which is told against myself by some of my colleagues, which I never hesitate to repeat, because it was the kind of accident which is liable to occur to any one, and fortunately the only one of its kind which ever happened to myself. It conveyed a lesson to me of which at the time I stood much in need, and for which I know thousands of my professional brethren may take warning with advantage. Many years ago I was asked by the surgeon of a large general hospital, with whom I was making a casual visit, to give him my opinion on the case of a young woman who had been in the hospital for some months,

suffering from a pelvic tumor which seemed to threaten her life. She had hectic and was suffering and very ill. The tumor on one side of the pelvis was apparently quite fixed, and I gave it as my opinion that it was a collection of matter, but in what position I could not say unless she would allow me to make use of the uterine sound, which unfortunately for myself, but fortunately for the patient, I had in my coat pocket. My friend told me I could do exactly what I thought proper. He had asked me for my opinion as a specialist, and he would not interfere with any steps I thought fit to take for the purpose of furnishing him with that opinion. I immediately proceeded to use the sound and came, quite erroneously, to the conclusion that the patient was suffering from a parametric abscess. The sound passed, as I thought, into an empty uterus, fixed toward the right side, the uterus being of the normal length. Within twenty-four hours the patient miscarried of a fourth month pregnancy, and this ended all her sufferings. She speedily recovered and left the hospital, cured in a way which nobody expected, and which certainly I did not intend. All such accidents have by no means so happy an ending as mine had, and their number is immense.

One of the most important methods of diagnosis in abdominal disease, and the first to be considered in examining any case, is inspection; and concerning this method a very great deal of nonsense has been talked. For example, Sir Spencer Wells has told us that inspection will reveal the presence or absence of adhesions; but, in my own belief, and certainly from the experience of cases in which Sir Spencer Wells, himself has made the diagnosis, there is no possibility of determining, by inspection, or any other method, the presence of adhesions anywhere, in the case of an abdominal tumor.

A careful examination, by the eye, of the contour of an abdomen, when the patient is lying on her back, with the walls of the abdomen perfectly flaccid, will reveal a good deal to the experienced practitioner. A completely and uniformly distended abdomen may mean that the patient is suffering from peritonitis, intestinal obstruction, ascitic effusion, a parovarian tumor, an ovarian tumor, a large myoma of the uterus, or pregnancy. The process of discriminating between these various conditions may very rapidly be completed by one who has been accustomed to dealing with them. Thus, peritonitis may be at once detected or eliminated by the presence or absence of the short and rapid pectoral breathing, which shows that the patient is loth to use her diaphragm. In fact, by this alone, and without almost any further inquiry, I have satisfied myself as to the nature of the case by a single glance. Ascitic effusion, on the other hand, is revealed at once by the absence of the pectoral breathing, by the greater flattening of the distention, by its tendency to assume a pyriform shape, the broadest diameter just above the pelvis, by

the thickening of the walls due to anasarcaous effusion, and the presence of white lines in the skin of the flanks.

If the crest of the ilium sticks out under stretched skin, the diagnosis is again almost complete without further inquiry. If, on the other hand, these subsidiary features are absent, and there be a uniform and complete distention, two conditions widely distinct may be suspected. These are parovarian cyst and hydramnios; and here, again, some very curious mistakes have come under my notice, some of which have had very ghastly results. Parovarian cysts after labor sometimes grow with astonishing rapidity. Hydramnios occurs always with twin pregnancies, and generally in unmarried women, who are, of course, disposed to conceal their unfortunate condition, and mere inspection cannot be depended on to discriminate these cases. But inspection will help us very largely to detect pregnancy and myoma, for, in these cases, the distention is always greatest either at the middle of the tumor or at its upper part, differing in this way completely from ascitic distentions; and here one of the most important agents in the diagnosis of abdominal diseases, palpation, comes at once to our assistance, and to the skilled fingers it ought not to take more than a few seconds to discriminate between all and any of these conditions. The percussion note, which is uniform in a case of peritonitis, will easily determine the condition which is present. One or two delicate touches of the fingers of one hand, while the fingers of the other lie with the most gentle lightness on the other side of the abdomen, will determine the presence of fluid, and it is in this method of palpation where the fingers of the skilled practitioner at once become visible. The inexperienced hands press firmly upon the walls, and may be seen to move to and fro in an aimless fashion, as if they intended to rock a cradle. The gentlest and tenderest touch alone will reveal what is required. A few trials of the different diameters of the abdomen will teach in as many seconds the leading features which are present: First, that there is fluid; secondly, that it is, or is not, near the surface, being contained, or not so contained, within a thin-walled cyst; thirdly, it is one cavity or not; fourthly, the probable character which it presents. The wave, excited by gentle tapping, is retarded or urged on by the more or less gelatinous nature of the fluid. All these conclusions can be indicated with the utmost rapidity to the skilled fingers, and it is absolutely impossible to teach how this can be, save by the constant practice of the pupil. The parovarian cyst may be diagnosed entirely from one condition—that is, hydramnios; and partly by the thin walls, and partly by the presence of hydramnios, to which I have alluded, is very easily detected. Ascitic fluid is revealed in the same way with the additional fact that here and there we get tympanitic percussion notes.

The large uterine myoma is defined by its firm sense of resist-

ance, and its uniformly full and pseudo-fluctuation ; also by the fact that it has a smaller diameter at the base than it has at the middle or upper part. Pregnancy, the rock ahead to inexperienced practitioners, can be infallibly revealed by palpation. First of all, there is fluctuation, due to the liquor amnii, and it can be easily detected, and this declares the cystic nature of the mass. If the hand be made to lie gently on the parietes for a few minutes, a rhythmical contraction of the uterus, by which at one time it is hard as a cricket-ball, and, at another, soft as a cushion, will become perfectly apparent ; and this is an infinitely more certain sign than the foetal heart, or the sound of the placental bruit. The foetal heart is a sound which may guide and sustain the practitioner in his conclusions, but it is so easily imitated by intestinal noises, and so difficult often to find, that it is not to be depended upon with perfect certainty. The placental souffle is probably more certain than the foetal sounds, but placental sounds are very often, in rapidly growing tumors of the uterus, so completely imitated that there is always a certain amount of doubt connected with them ; but the relaxation and contraction of the uterus in pregnancy is a method of diagnosis which, when once made apparent, can never be mistaken for anything else.

That a complete and satisfactory diagnosis can ever be made, save in the simplest condition of disease of the abdomen, without an exploratory incision, I have repeatedly denied. I have said over and over again, that the abdomen is a region of darkness, and the man who is most sure about his diagnosis is the man who will be most frequently in error. But this does not mean, nor has one word which I have ever written been intended to mean, that every method that is possible for a correct estimate of the nature of the disease should not be exhausted before the abdomen is opened, either for the purpose of diagnosis or treatment, or both combined. Unless this doctrine be most carefully observed, mistakes of the most ghastly and fatal kind will inevitably arise, and they will arise in two conditions clearly, from which, I am proud to say, my own practice is absolutely clear. The conditions of pregnancy are such as to make it perfectly certain that to the reckless operator they will yield an unfortunate harvest. Women who are pregnant when they ought not to be so, persistently do their utmost to lead practitioners astray, and the reckless surgeon who opens the abdomen, without having carefully exhausted all methods of diagnosis before coming to the last resource, is certain to be led into the error of opening the abdomen to find a pregnancy in the uterus. This has never happened to me. There will also occur to the reckless surgeon, some time or other, that most mysterious and troublesome of all diseases for diagnostic purposes, to which I have already alluded, hydramnios, due to the over-secretion of the liquor amnii. Seven cases of this disease have passed through my hands, and have been accurately diag-

nosed in every instance and successfully treated, and I cannot imagine anything much more certain to be a trap for the rash and unwary than this most curious disease. The fact that every one of my cases has been recognized, and properly and successfully dealt with, is an evidence that what I am pleading for is correct.

If I may, in conclusion, take one more illustration to show how completely the results of daily practice, of what may be called rule of thumb, may triumph over the mere teaching of the schools, I would mention the much-discussed bimanual method of examination. I read recently a long rigomarole of nonsense by a German, who evolved from his superabundant inner consciousness, but not from clinical experience, the conclusion that no man could properly examine the pelvis in this way unless he had the patient on her back, turned in the lithotomy position, he being placed opposite the perineum. In the first place, English women would not submit to such brutality, and it is wholly unnecessary. The most complete and satisfactory examination of any woman's pelvis can be made while the patient lies quietly on her left side in bed, without the exposure of one square inch of her skin. Any man who requires more than this is either a pupil or a dullard.

So it is with such a special instrument as Sims' speculum. I have heard some of my American friends say that it is impossible to do any operation upon the vagina satisfactorily without it. All I can say is that I have now cured some three hundred cases of vesico-vaginal and recto-vaginal fistulæ, never having failed in any case, nor having ever refused one, and I habitually pass the sutures with my finger tips, wholly unaided by speculum of any kind.

102. INTRAUTERINE Myoma. DR. W. GARDNER, Montreal, in Canada *Medical Journal*.—Patient, aged 32, was sent to him October 15, 1885. She had been married 13 years, and had had one child eight years after marriage. She suffered from profuse and painful menstruation at intervals of three weeks. An examination revealed the cause. Removal of the appendages was thought of, but ergot in the intervals and astringents at the period were tried. She returned three months later with a history of increased hemorrhage. She now was extruding shreds of the foetid tumor, probably from the action of the ergot. She had also had chills. It was decided to at once remove the myoma. The cervix was first incised with the thermo-cautery, and by means of a pair of scissors and the serrated scoop the whole was removed. A double drainage-tube was then inserted, and sutured to the cervix. Irrigation of weak carbolic solution was used every two hours. Twenty-four hours after the operation the temperature rose to 102°; irrigation was now constantly used till the temperature fell. Some days after, the suture sloughed away and the tubes came out, causing the temperature to again rise. After this, a single tube with a cross-piece at the end was used, thus making

it self-retaining. Patient made a good recovery. Dr. Gardner laid great stress upon the necessity of frequent irrigation in these cases. Mr. Tait used to lose 50 per cent. of these cases, and now his rule is to remove the appendages, and results are far more favorable.

103. SHORTENING of the Round Ligaments—“Alexander’s Operation.” The following is a portion of the remarks of Prof. C. B. NANCREDÉ, published in *Medical and Surgical Reporter*.

On account of a lacerated perineum and the uterine subinvolution consequent upon too early “getting up” after her rapidly-recurring labors, and also from her severe manual labor, a complete procidentia of the womb has taken place, so that the extruded uterus and everted vagina have assumed much the appearance of the male genitals, the mucous membrane from long exposure and friction resembling the external integument. Neither pessaries nor supports will any longer afford relief, and an operation of some kind is demanded.

Complete anæsthesia having been now induced, I cut freely down upon the right inguinal canal, taking the spine of the pubes on that side as my starting point, and prolonging my cut obliquely upwards and outwards about two and a half inches. Of course, the more frequently the surgeon repeats this operation the shorter will be the incision. On a thin subject, the incision need not be so long as I make it in this corpulent patient. Unless the surgeon has witnessed the performance of this operation more than once, it is advisable to practice it upon the cadaver. Following Alexander’s directions, I hook out with an aneurism needle the mass of fibro fatty tissue from the external inguinal ring, after dividing a few of the inter-columnar fibers so as to freely open the canal. It may be well to say here that the external ring can be readily recognized after the aponeurosis of the external oblique has been freely exposed, by a little pellet of fatty tissue which bulges out from it. Having separated the fatty tissue with the finger-nail and a director from the sides of the canal, I recognize the ligament by the genito-crural nerve which runs along it, which latter structure I carefully separate, preferring not to cut it as Alexander advises, unless I see fit to do so at a later stage. Great care must be exercised not to fray out the ligament, only the finger-nail, closed, blunt-pointed scissors, or a director being used, at least, this is my experience, although it is somewhat opposed to that of Alexander. You must proceed with care lest the peritoneum be opened, but there need be no fear of invaginating this serous sac into the canals, if the ligament be properly separated from its surrounding connections. Having dissected out both ligaments so that they play freely through their respective canals, I pass a stout catgut ligature successively through the ligament, the inner column of the ring, and the inner (upper) margin of the skin incision,

repeating the same procedures on the outer column, etc., with a second thread. These sutures are then tied with sufficient firmness to retain the uterus, but not strangulate the ligament, the uterus, before they are tied, being replaced by a sound introduced into its cavity. The wound is now thoroughly syringed out with the mercuric bichloride solution, the surplus ligament tucked in, a capillary catgut drain secured to the bottom of the wound, which, after closure by a few points of interrupted suture, is dusted over with iodoform powder, and an antiseptic gauze dressing is applied.

In passing, let me beg you to observe the method I employ of inserting the catgut drain (a mere brush of catgut threads, as ordinarily used, always proving a snare): A bundle of some dozen or more fine catgut threads are tied together at its middle by another ligature threaded through a needle, by means of which the drain is securely stitched to the bottom of the cavity. Now, three or four strands brought out between each pair of silver sutures, *the individual threads being kept closely in contact outside the wound*, allow of capillary drainage. By the time discharge should have ceased—and remember, this form of drain is only effective for blood or serum, not pus—the gut within the wound is absorbed, and the remainder comes away with the dressings. The advantages of this method, introduced by Mr. J. Chiene, are self-evident. Both ligaments are drawn up into position at the same time, so as to draw equally upon these structures, and held by an assistant while the sutures were passed. The left ligament as usual, you notice, is about half an inch longer than that of the right side.

Although, for safety, we employ antiseptic methods, we do not expect union by the first intention throughout. A medium-sized, well-fitting Smith-Hodge pessary is next introduced into the vagina, and the patient is placed in bed with her knees tied together and flexed over a pillow, and the head and shoulders somewhat raised to ensure relaxation of the abdominal parietes, thus avoiding any drag on the wounds. She will now have administered a hypodermic of morphia and be sent to the ward. You will notice before she goes, that the uterus is well raised up and strongly *anteverted*. Thus, even if the sutures should separate early, the newly-formed adhesions will be subjected to no dragging strain, since all expulsive efforts will only tend to still more antevert the organ, drive it forwards, and rest it, as it were, upon the pubes, while by means of the loose broad ligaments, as before explained, the small intestines are allowed to crowd down below and actually *elevate* the womb. Please to remember that the rectocele and cystocele resulting from the torn perineum and relaxed, long-everted vagina, will not be cured, although, perhaps, materially improved, but the *womb* will no longer descend.

104. INFLAMMATION of the Lining Membrane of the

Fallopian Tube, with Exudation of Pus or Purofibrinous Fluids. Dr. R. STANSBURY SUTTON, M.D., in the *Journal of the Am. Med. Ass.*—This disease is termed salpingitis, and like a bronchitis, it may be acute or chronic. The acute form is not distinguishable from an ordinary peri-uterine inflammation. The chronic form may be recognized. In some cases the diagnosis is limited to certain periods in the history of the case; in other cases the symptoms may be so constant as to render it possible to make the diagnosis with considerable accuracy.

The causes of this disease have frequently been said to be limited to gonorrhœal infection. This is an error. It does arise in strumous women from the constant introduction into the uterus of instruments, whether by reason of the introduction of septic matter, or from mechanical violence, I am not sure. But it is more than probable that it arises from the introduction of septic matter. The entire gynæcological practice of some seems to be limited to a single procedure, viz. : the introduction of the uterine sound: and the *rationale* of the treatment is explained to the patient thus: "There are adhesions between your womb and bladder, or womb and rectum, and these must be broken up." Or: "You have got a tumor in your womb, and it will be removed by making pressure on it in this way."

I have just now under my care four striking examples of this treatment persisted in to the production of salpingitis, unilateral, in one; chronic cellulitis and fixation in retroversion of the uterus in another; chronic invalidism in a third; and the fourth case is absolutely free from all disease, but had been gouged regularly for a supposed fibroid which never existed. The constant poking at the interior of a uterus with sounds will frequently produce an inflammatory condition of the lining membrane of the uterus and tubes as well as a general pelvic cellulitis. The older I grow, and the more experience I get, the more am I convinced that local treatment directed to the interior of the uterus instead of to the surrounding structures is entirely too much practiced. I find scarcely any use of late years for the old Simpson's sound, sponge or laminaria tents; they lie about as relics of the past. Symptoms are not longer treated for diseases, and the uterine cavity is no longer made a chemical laboratory. The condition of the pelvic and abdominal viscera receives more attention, and less local treatment is required. Tonics, massage, rest, hot water, regulation of the bowels, a good diet, and an occasional application of iodine to the vault of the vagina will soon do away with a host of cases formerly treated with text-book punctiliousness. The cases requiring surgical treatment receive it promptly and with the loss only of enough time to prepare the case. I am sure that such a course is productive of less harm and of more good than the other.

An acute salpingitis recognized as a peri-uterine inflammation

should be treated on the well established principles laid down by all authors.

The existence of chronic salpingitis is not always easy of recognition. Mr. Lawson Tait said to me in 1882, at his clinic in Birmingham, England, "Please examine that woman." I did so. He said, "What is that?" I replied, "a case of chronic cellulitis." "No," said he, "it is a case of salpingitis, pus in the tubes." I now for the first time knew that I had seen the disease before and had not recognized it. I have seen many cases since, some operated upon by Mr. Tait, and I do not yet feel competent to always recognize the condition. When the symptoms are well marked, and the patient is a married woman or a prostitute, it is easier to recognize it than when the patient is unmarried and above all suspicion—because *sexual intercourse in chronic salpingitis is well-nigh unendurable*. Occasionally the muco-pus or pus and serum will escape from the tubes through the uterus and relief follows; if the tube fills again the suffering returns. I have seen this occur. Bimanual palpation will reveal a fullness on one or both sides of the pelvis. This fullness or swelling is not solid and painless, but semi-elastic and painful. The swelling may be well off on the sides or be directly behind the uterus itself. Other structures than the distended tubes are likely to be involved in the swelling, and if adhesions have formed the mass is fixed.

Pain, reflex in character, is usually complained of in one or both groins, in the back, in the bladder or down the legs. Frequent attacks of pelvic peritonitis occur, lasting eight or ten days. During these the patient cannot walk about without much suffering, and there is an acceleration of pulse and temperature. Pressure bimanually produces a feeling of faintness, and occasionally reflex nervous phenomena approaching hysteria are present. The patients lack color, and bear the evidence in their faces of suffering. One patient often complained of being "so stiff as to be scarcely able to walk." In all of my own cases I have observed that the menstrual flow was disturbed, being profuse and lasting beyond the time, and finishing up with a leucorrhœal discharge sufficient to annoy the patients. In one of them the tube was now and then emptied through the uterus. There was no mistake about this, for I finally removed the tube when it was full of pus.

105. PALPATION of the Pelvic Organs.—DR. B. S. SCHULTZE, of Jena, has recently published (*Centralbl. für Gynäk.*), an original communication on bimanual palpation of the pelvic viscera. He had already noted that the contracting and relaxing psoas muscle, along the brim of the pelvis, was an excellent guide to the fingers engaged in detecting the position of the ovary in the bimanual method. External pressure along the same part of this muscle will often, in cases of chronic oöphoritis, or complicated parametritis, cause severe pain, especially when the

hand passes over the ovarian vessels and nerves as they cross over the pelvic brim. [This, if misunderstood, may be taken to be symptomatic of some acute inflammatory process in the pelvic cavity. A thorough exploration of the vagina with the finger, in a case of suspected uterine disease, is very likely to involve pressure on the nerve, and this may become a source of fallacy. Pressure on the ovarian plexus must also cause pain even in health, and thus the tenderness is not necessarily a proof (*vide supra*) of chronic oöphoritis.] When the psoas is kept in a state of clonic spasm, through apprehension of pain or through faulty position of the lower extremities, it may readily be taken for a swelling, the result of pelvic inflammation. As long as the psoas remains relaxed it cannot readily be distinguished by the hand placed upon the iliac fossa, but the pelvic brim can be felt through it. When, however, the patient bends her thigh the brim cannot be felt through the contracting muscle, which becomes very evident to the touch, and is distinctly tender.

Dr. Schultze finds that two muscles are to be detected on careful vaginal palpation, and to be taken into account as valuable guides to other structures. These are the obturator internus and the pyriformis. [The sphincter vaginæ and levator ani are easy to detect. The anterior part of the latter, when in active contraction, is often mistaken for the former, which lies below it, separated sometimes by a distinct groove. The tendinous arch, whence part of the levator ani takes its origin, can be felt under the lateral part of the vagina; and, by passing the finger forwards towards the anterior bony origin of the muscle, behind the body of the os pubis, the obturator gland can be detected if it be enlarged or inflamed, as in some cases of pelvis cellulitis and gonorrhœa. Vaginismus is very frequently, we find, caused by painful contraction of the levatores ani in cases of fissure of the anus or inflamed hemorrhoids.] The obturator internus, Dr. Schultze states, is a muscle generally well developed, and its movements can be felt through the vaginal walls if the patient rotate the corresponding leg outwards. Its contraction becomes particularly evident during extension and adduction of the thigh, when not only its origin around the obturator foramen can be defined, but also the portion lying further back towards the sciatic notch. Pressure on the contracting muscle seldom causes pain, but pressure on the obturator nerve produces sharp, crampy pains, radiating to the thigh along the course of the nerve.

The pyriformis is difficult to detect by vaginal palpation in subjects where the vagina is long, and the pelvis deep. It can easily be touched when the pelvis is shallow and the vagina broad, or in women of diminutive proportions. When the uterus is high up, as in advanced pregnancy, the finger can easily reach the upper border of the muscle. The pyriformis is, according to the evidence of palpation, very irregularly developed in different

patients, and it is not so evidently set in action as the obturator, during active rotation outwards of the lower extremity. On the other hand, in many cases it remains in continual contraction, especially when the patient lies in an uncomfortable position, or is in a state of alarm. Pressure on the contracting pyriformis is often intensely painful, possibly, ("vielleicht," *evidently*, might be said with full confidence) through transmission of the pressure to the sacral plexus. Through these peculiarities the pyriformis may become a prominent source of fallacy. Dr. Schultze, a few years ago, examined a very corpulent patient suffering from chronic metritis and parametritis. He took the two contracted pyriformes for the ovaries fixed to the back of the pelvis.

When both the pyriformes and the obturatores interni are set in action, the bulging of the obturators is most prominent a little behind the middle point of the foramen ovale. As each obturator bulges but little, there is not much chance of its being taken for a tumor or a collection of inflammatory deposit. The most projecting part of the pyriformis in full contraction is much more evident to the touch; it stands out three quarters of an inch or more from the anterior surface of the sacrum. The inner borders of the two pyriformes in full contraction lie over an inch apart, so that two fingers can be pushed between them in vaginal palpation. The separate bands of fibers can be detected as they arise from the sacrum between the sacral nerves, provided that the muscle be set in action while the finger presses in the right direction. If the patient, lying in an easy attitude, have rotated the lower extremity outwards without setting the pyriformes in action, she should be told to hold the thigh stiff. This will set all the femoral muscles in action, and the pyriformes may then be distinctly felt. This will be sufficient to distinguish the muscles in question from a morbid growth or deposit.

106. UTERINE Appendages, Diseases and Removal of the. *Abstract of a Lecture Delivered by MR. LAWSON TAIT, Reported in the Edinburgh Med. Journal.*—In drawing attention to the removal of the uterine appendages, Mr. Tait remarked that all our old terror of the abdomen had vanished, and now scarcely a day passed in which he did not open an abdomen for some cause or another, and frequently he was called upon to open several in one day. He considered that while the pathology of the ovaries was pretty well exhausted, a great deal remained to be done in connection with their physiology. Until quite recently it was commonly believed that menstruation depended upon ovulation. Now, however, we know that while menstruation occurs only at a definite and regular time, ovulation may take place at any period, and it certainly was by no means so frequent as menstruation. To-day he meant to confine his atten-

tion to a consideration of the Fallopian tubes, and in the first place to

Ordinary Inflammation.—The history that one gets in such cases may be of several kinds :—(a.) We not unfrequently find salpingitis in unmarried women. Probably we will be able to trace the history of a connection and a consequent gonorrhœa. Many of our surgeons were inclined to consider gonorrhœa in the male a very trivial and a very unimportant case. To such an opinion he took very strong exception, because he considered that a very great proportion of the special diseases of women were directly or indirectly attributable to the effects of a latent gonorrhœa in the male. In continuing our inquiry we would find the existence of pain in the pelvis, and discover that the onset of this pelvic pain had been sudden in its character. (b.) In other cases we would get quite a different history altogether. The patient is a married woman. She has had, perhaps, one child, but has never been well since her delivery, and has never been again pregnant. Or in some cases we get the history of a miscarriage two or three months after marriage. The patient has never been well since her miscarriage, nor has she been again pregnant. Inquire a little carefully into these so-called miscarriages, as not unfrequently they are merely local peritonitis. (c.) Not only have we these symptoms following a gonorrhœa, a bad labor, or a miscarriage, but we have them equally marked in cases where the causes are altogether unaccountable. This, however, is by no means very common. Sometimes we find them in young girls between the ages of sixteen and twenty, and who are pure virgins. It goes under the name of "catarrhal salpingitis," and we frequently can trace the commencement of the symptoms to a chill after a dance, or to sitting on damp grass after playing tennis. In studying the symptoms of a case we must determine one or any of these causes. In acute cases we find the history of rigors, pelvic uneasiness, pain and swelling. On opening the tube we note the redness, marked congestion and inflammatory effusion, while the inside of it is bathed with pus.

Chronic cases are, however, by far the commonest. In these we find that menstruation is usually very frequent, coming on every sixteenth day or so, and extending from five to ten days. The discharge is profuse, and dysmenorrhœa is marked. We should always be especially suspicious of salpingeal disturbance if the pain comes on a day or two previous to the menstrual flow. It is due to some rhythmical expulsive contraction in the inflamed tubes. This occurs normally before each menstruation, and accounts for the old idea of ovulation occurring at each menstruation. There is marked pain on movement of any kind—either walking or even driving in a carriage—while standing any time causes aching in the back.

On examination the uterus is nearly always found to be fixed.

The ovaries are generally small, and are also bound down by adhesions. The Fallopian tubes are found adhering to the pelvis, and are frequently occluded. The patient is thus completely sterilized by the disease itself, and this fact removes the objection that surgical interference prevents any further impregnation. Besides, the operation relieves the great pain and suffering. The dyspareunia is removed, and thus operative procedure is the only possible way of resexing the patient. Before discussing the treatment Mr. Tait went on to consider the subject of

Fallopian Pregnancy.—The uterus, he said, was the normal place of impregnation. When, however, the epithelium of the Fallopian tube is destroyed by any cause, we occasionally find spermatozoa going up the tube because they have no cilia to fight against. Under such circumstances we meet with Fallopian pregnancy. In such cases the bursting of the Fallopian sac is a very frequent cause of a fatal collapse. We find the tube can be distended up to a certain length, the limit being to a diameter of about three inches. This is reached about the tenth or twelfth week of pregnancy. The chief symptom in tubal rupture is the hemorrhage, and the amount of this we find depends upon the placental insertion. Where it is attached into the upper part of the tube, the rent occurs there, and the hemorrhage is very fatal, and takes place into the pelvic cavity; when it is inserted low down, the discharge takes place into the folds of the broad ligament, and is comparatively small in amount. It is in the latter case that we find the child frequently going on to the full time.

Occlusion of the Tubes.—As the result of tubal irritation we sometimes find the fimbrial extremities occluded. The uterine end is also frequently closed. If not, we have periodic discharges, sometimes of a serous character, often of pus. In very chronic cases we may have caseation, and this may set up tubercular diseases in neighboring or distal organs. The patients find coitus impossible from the intense pain.

As regards *treatment*, in acute salpingitis we should operate *at once*. Many patients die in the acute stage. Besides, the suffering is intense and prolonged, while the prognosis is always unfavorable. In chronic cases also operate where the history helps you to diagnose with any degree of certainty, and especially where physical signs confirm your opinion. If not, be far more guarded; because if salpingitis is not the real cause of the pain, although the operation may relieve the patient for a time, it is almost sure to return. It is in such cases that we get unsatisfactory results from operation, and, therefore, it is that what is known as Battey's operation has led to so much disappointment. What Battey desired was to cure various and vague reflex symptoms by a premature climacteric. Mr. Tait had followed Battey's example in a few cases, but was not encouraged by the results.

Abdominal Section.—The incision must always be very small.

Many medical men, who had been present at some of Mr. Tait's operations, had complained about seeing so little of his method of operating. But in this case eyesight was really of no use. You must be able to diagnose the various organs by the sense of touch. This of course might be cultivated by practice on dead bodies, but every one must learn for himself through the actual operation. The risks of the operation are two in number—*Firstly*, Tearing organs which you did not intend to tear. The drainage-tube introduced by Koeberle and Keith minimizes this danger. In one case he tore a hole right through the rectum. He put a long drainage-tube right through the wound, and although the fæces passed through the tube for weeks, the result was an uninterrupted cure. *Secondly*, Hemorrhage. This is sometimes tremendous and very alarming. In the first place, pack the pelvis as full as it can hold with sponges, and wait for fifteen minutes. If it continues, wash out the cavity with a solution of the perchloride of iron. This is somewhat risky, and the best results will follow from inserting a drainage-tube, and teaching your nurse to pump out the blood from the pelvis as it collects.

Myoma or Fibroids of the Uterus.—These are usually found in women about the ages of 36 to 40. Sometimes they are harmless, but in other cases we find them causing a great amount of trouble. Where they set up a weakening and persistent hemorrhage, operation is made necessary. In some patients they may have assumed enormous proportions, as in one case on which he operated, where the tumor weighed 60 lbs., and required an incision of 21 inches to get it out. He advocated early removal, as if you operate early you get over this difficulty, and, besides, the very great danger attending pregnancy under such a condition.

107. CICATRICES in the Collum Uteri and in the Roof of the Vagina.—DR. A. MARTIN, in the *Journal of the Am. Med. Ass.*

When, as long ago as 1862, and then more fully in 1874, Emmet indicated the operative treatment of rents in the cervix, which he considered as the sources of a whole series of gynæcological maladies, these conditions had, up to this time, been very little observed. They had been recognized as the cause of a relatively infrequent eversion (E. Martin) or of an ectropium (Roser).

Emmet, on the other hand, regarded these rents as the sources of catarrhs of the cervix and of the *corpus uteri*. He emphasized the difficulty and even occasional impossibility of healing these catarrhs as long as the rent exists. He further pointed out that these scars are the source of long-continuing, every-spreading irritation in the pelvis. Finally, he very particularly insisted that such rents hinder the proper development of the uterus, if it become pregnant, and that in consequence, in a great number of cases, abortion is occasioned by them, and that many women who habitually abort suffer from rents in the cervix. His proposition

to heal these by operation, to perform trachelorrhaphy, excited very extraordinary notice at that time, since it occurred just when far more attention was being given to securing a widely-gaping aperture of the uterus, and the influence of the bilateral discussion was supreme.

Emmet's propositions made progress among the Americans very rapidly, considering all things ; in Europe, however, it was quite the contrary, and this operation was received very doubtfully, especially in Germany, although at that time operative gynæcology was in a state of active development.

But even when, in Germany, the plastic operations on the *portio vaginalis* in great numbers were well received, and authors like Breisky, Spiegelberg, and Schröder, and among others the writer, busied themselves with this operation, the operation of Emmet remained a rarity.

The cause of this peculiar state of things, however, is not at all that we do not recognize the importance of the cicatrices, that we regard the removal of the latter as anything difficult, or that the permanent results of our operative interference on the cervix were unsatisfactory ; but the question was first considered whether the cervical rents are really the essential cause of the troubles on which Emmet insisted. The answer to this question is that we see cervical rents causing no symptoms too often to permit us to reply affirmatively. There are either, (1) *Catarrhal complications, i. e., affections of the mucous membrane* ; (2) *Peculiar and rare cicatricial formations*, which give importance to the cervical rents, and in such cases these should be attacked.

There is not the least doubt that we frequently find *catarrhs as complications of cervical rents*. But in such cases the catarrh is not dependent on the rent as such. It has either originated as an independent disease simultaneously with the injury of the cervix, or it has occurred there later. Doubtless, then, the symptoms of catarrh are much more prominent. The development of the glands of the area affected, and the increase in volume connected therewith, cause a protrusion of the diseased mucous membrane ; the torn *os uteri* gapes, the cervical mucous membrane protrudes swollen, and with its hypersecretion and its hemorrhages shows the well known and very typical appearance. The glandular new formation which we must recognize as the anatomical foundation of the erosions, according to C. Ruge's very significant investigations, also keeps spreading on the surface of the rent of the cicatricial tissue here developed, as it may also cover the whole surface of the *portio vaginalis* (see plates LIX of E. Martin's Hand Atlas, edit. II of A. Martin). Undoubtedly these complications resist obstinately any therapeutic measures. This form of catarrh can only be healed by a careful treatment, so that such patients must frequently suffer very severely, and become chronic invalids.

Emmet prefers to cure this affection of the mucous membrane

by patient local treatment, and then performing trachelorrhaphy. In Germany it is generally preferred, as it appears, to use a more energetic treatment of the affection of the mucous membrane, after some trial of what treatment with medicaments for a reasonable period can accomplish. In such a case, however, there is no object in making also a trachelorrhaphy as such. For it is better to combine the excision of the mucous membrane with that of the cervical cicatrices; amputate the vaginal portion. By this means, as a rule, a very well shaped new *portio* will be formed in place of the torn, everted, diseased one. The majority of cases of amputation, according to the method of Hegar or Schröder, or as I do it as a rule, according to a plan combining both of these (see A. Martin's Pathology, Treatment and Diseases of Women, 1885, p. 285), gives a stump where, after completion of involution, very frequently the previous operation can be as little discovered as the alterations which led to the operation.

But in the few cases which heal thus typically there is moreover a proper aperture of the orifice with the lips of the *os uteri*, and a covering of flat epithelium. I have repeatedly endeavored to combine the typical Emmet's operation with excision of the diseased mucous membrane, and Schröder has also attempted this. For my part, however, I have given up this method completely, and in these cases I practice simply the typical amputation.

The cicatricial formation of rents in the cervix goes on and terminates in very different ways. It may so heal, corresponding to the quick changes in the cervical tissues, that scarcely any hardness and scarcely any cicatricial tissue can be distinguished, either by palpation or by the microscope. In other cases the cicatricial ramifications extend far beyond the immediate vicinity of the rent. Thence arises a displacement by contraction of the cervix, and also of the body of the uterus, which may disturb the physiological position and shape of these parts of the uterus in connection with respiration, and motion, and fullness of the adjacent organs, in connection with their changes during menstruation and pregnancy.

Severe consequences occur when the rent has extended into the *parametrium*, reaching the base of broad ligament and the roof of the vagina, and drawing them out of shape, and, in a unilateral affection, drawing the uterus as far as the wall of the pelvis, or in cases of bilateral cicatricial formation, fixes it in the middle of the floor of the pelvis. Such fixation shows its presence at every jar of the body, at every change of position of the uterus. On this account severe distress is occasioned in almost all stages of the development of the malady, frequently defying treatment by medicaments. Operative interference is called for in these cases, and with such indications we practice it with the best results.

Cicatricial formation limited to the cervix is commonly treated by us by the typical trachelorrhaphy of Emmet. The results of this

operation correspond to the good success which Emmet himself reports from it. When the mucous membrane is healthy a good scar is formed, which in case of subsequent pregnancy neither shows itself as a hindrance to the development of the body of the uterus or cervix, nor during delivery is found to be a weak spot, easily torn in the external os.

In cases of extension of the cicatrices in the roof of the vagina I am accustomed to use a somewhat different procedure. I first separate the cicatricial tissue of the roof of the vagina and of the floor of the pelvis from the cervix uteri, and excise the former completely from its environment. Then, if the cervical mucous membrane be healthy, I refresh the scar in the cervix, and here also I remove thoroughly all cicatricial tissue. Then the sutures are put in in such a way that the wound, which was first round or even gaping parallel to the median line of the floor of the pelvis, is united to form a scar running transversely through the roof of the vagina. This scar running transversely through the roof of the vagina terminates in the end of the cervical rent: the latter is closed either according to Emmet's plan, or, if there be at the same time disease of the mucous membrane, an amputation of the lips, excision of the erosions, and curetting of the mucous membrane of the uterine body is performed. The dissection of the cicatrix from the cervix is made with a pointed two-edged knife, and seems easy to perform when the parts are put properly on the stretch with the patient on her back and the vagina held well open by a Simon's speculum and Hegar's holders (see A. Martin's "Diseases of Women," p. 24, fig. 15). The wound gapes, often large arteries spurt (branches of the uterine artery), and require quick action in controlling the hemorrhage; or on the other hand temporary ligation at the sides. The womb falls away from the wound by its own weight towards the median line in cases in which it has been distorted towards the side.

After sewing up the wound a normal configuration of the roof of the vagina is generally attained. Convalescence in the cases observed by me was attended by no difficulties. The final result, however, was surprising in the completeness of the removal of the severe symptoms which had accompanied these cicatricial contractions.

108. EPITHELIOMA of the Cervix Uteri. DR. R. M. HALL, in the *Maryland Medical Journal*:—I remember seeing it distinctly stated a year or so ago, in a New England medical journal, that cancer of the uterus has not been known to occur in the negro race. In the Southern part of this country, according to statistics, of nearly 2500 deaths among whites, one in every 121 was from cancer, while among colored people only one in about every 251. Many physicians, no doubt, in this section of the country may not even have seen a case of cancer

of the uterus among colored people. I have had three cases that have come under my personal observation. One in a bright mulatto woman, age 65, who died from cancer of the cervix.

I confess that in the light of subsequent events I erred in my diagnosis of the case. Knowing the rarity of cancer of the uterus among colored people, and taking into consideration the age of the patient, together with all the various symptoms connected with the case. I concluded I had a case of syphilitic ulceration of the cervix and vagina.

The literature of syphilitic affections of the uterus and appendages is very meager so far as I have been able to learn. Bumstead and Taylor, in their late work, say syphilitic affections of the ovaries are rarely met with. According to Lanceraux they present a close analogy to syphilitic affections of the testicle. This author has only met with the diffuse form after it has arrived at the stage of atrophy; the ovaries were of the usual size or smaller than natural, fibrous in their structure, with scattered cicatrices and destitute of Graafian vesicles, although the patients had not arrived at the usual age for the cessation of the menses. Lanceraux gives a representation of a case furnished by Richet in which there was circumscribed deposit of gummy material similar to that found in syphilitic orchitis. The symptoms of these affections are said to be a slight dull pain in the region of the ovaries, possibly at the outset some increase in the size of these organs, perceptible on abdominal and vaginal palpitation, a loss of sexual passion and sterility. It is evident that these signs take in connection with the history of the case can only furnish a probability of the nature of the disease which may be further increased by the success of anti-syphilitic treatment. No instance is known in which the Fallopian tubes have been affected with syphilis. Certain cases in which uterine tumors in syphilitic subjects have yielded to the internal administration of iodide of potash and mercury render it probable that this organ is not exempt from the late manifestation of syphilis, but nothing definite is known upon the subject since post-mortem investigation has been wanting.

Thomas says that upon theoretical grounds it might be supposed that the diagnosis of ulcerated cancer would be so simple that few errors would occur in reference to it. This is far from the truth. A skillful diagnostician would indeed generally arrive at a correct conclusion, but I know of no disease of the genital organs of the female, unless it be pelvic peritonitis, which so frequently gives rise to errors of diagnosis with the inexperienced.

Among other diseases he says it may be confounded with syphilitic ulcer, sarcoma and so on. From these a differentiation should be arrived at by careful study of the progress of the case, by the degree of constitutional implication, and by the results

of microscopic examination. A positive conclusion is not always easy. He says, let it be borne in mind too that syphilitic ulcers have been known to eat into the bladder and rectum and create very much such a state of things in the vagina as carcinoma develops.

109. EMMENAGOGUES, DR. E. HADLEY, *Indiana Medical Journal*.—It remains no less a fact, that derangements of the menstrual function are the most common and annoying difficulties of female life, and also that there are means of relief in most cases, whether such means bear the name of emmenagogues or not.

Let us first consider menstruation and the organs concerned in it. Previous to the establishment of this function the uterus is small, anteflexed, or even anteverted, soft and without tone. The Fallopian tubes are short, straight and small, and have had as yet no periodical functional movement. The ovaries are likewise small and soft, but have, even before menstruation, been producing ova. Throughout all the generative organs there is a relatively small vascular development. As the girl approaches puberty, there is a determination of blood to the pelvic organs. The vascularity is greatly increased as well as the nervous sensibility. The uterus, that was small, flabby and anteflexed, has now become erect and firm. The tubes that were straight, small and pale, have become tortuous and turgid. The ovaries that have been wastefully casting off their germs are now more fully developed for producing mature ova. The abundant uterine and tubal capillaries become intensely congested. The Fallopian tubes, so long inactive, now for the first time assume movement; the fimbriated extremities of each embrace their respective ovaries, one of them at least including in its embrace a now mature ovum, which, on the rupture of its sack, it conducts, as a first effort, to the uterine cavity. About simultaneously the congested capillaries rupture. There is a flow of blood from the womb and tubes, and womanhood is established.

It has been stated that once a month there is a physiological vascular engorgement of the generative organs, simultaneous with the rupture of an ovarian follicle, that results in a flow. This on the one hand may, from causes, be excessive, causing a painful or even inflammatory condition of the pelvic organs, or even suppressing the menstrual flow entirely. Perhaps, in the young woman, she has been overtasked in study, or overworked in other employments, or out-door life and recreation have been insufficient. She is depressed and anæmic. She has matured into womanhood very rapidly, vitality has suffered and she is chlorotic. In either case menstruation is probably irregular or absent, insufficient or delayed, and the general health is much disturbed. Sometimes the degree of anteflexion is excessive, and does not become

corrected in the new life, and may prove an obstruction and source of pain or inflammation, with consequent monthly derangement; an imperforate hymen may be unknown to the sufferer and remain undiscovered to the timid or off-hand physician.

The older woman who has experienced child-birth is very liable to accidents therein, as lacerations of cervix or perineum, which, whether trivial or not, as to extent, almost inevitably act as exciting causes to subinvolution, with its train of after symptoms, of prolapse, of the various flexions and versions, of inflammation of the uterus, the tubes, the ovaries, broad ligaments, the pelvic peritoneum or to the cellular tissues; and in consequence of these, there is a multitude of perplexing symptoms, along with disordered menstruation. From previous use of caustics there may be adhesive narrowing or obstruction in the os or cervical canal. Exposure or wet feet or shock to the nervous system may prevent or suspend the flow. An active scrofulous diathesis or a developing phthisis may prevent or make it irregular from the consequent anæmia.

Probably this includes most varieties and causes of disarrangement of menstruation which we most frequently meet, and for which emmenagogues are most used. If in certain cases we have reason to think the periods are delayed or suspended, and there are no untoward symptoms, but apparent good health, there need be no alarm; the case will probably take care of itself; at least there will be time for observation of the case, and seeing what comes next. If, on the other hand, there be anæmia or the chlorotic conditions, or a suspected scrofula, or the tuberculous tendency, the patient will benefit by improved hygienic advantages, should not be oppressed with studies, should have a change, be in the open air and light and should be pleased and inspired. As to the medicines in such cases, we almost have specifics in the use of iron, strychnia, and cod liver oil. If at any age there be a checking of the flow after its natural appearance, or if it is suppressed from a sudden cold or exposure, if there is no inflammatory condition service may be derived from stimulating draughts, as pennyroyal, or quinine, or hot foot or sitting-bath. If in the non-parturient there be habitual irregularity or excessive pain, or any extreme in scantiness or abundance of flow, there is surely some constitutional vice or a local organic deformity. The ante flexion of girlhood may be extreme and prove permanent. Or there may be a retroflexion or version; likewise a sharp version may obstruct. The canal may be so minute as to cause retention of menstrual fluid. Therefore, if the trouble is persistent in the young woman, there must be made a search for the cause, and the cause removed. If at older age, particularly after parturition, there is experienced irregularity or difficulty that was not experienced formerly, we are almost sure to find organic disease, often

laceration of a lip of the uterus, or of the perineum, causing displacements or chronic inflammation. Polypoid growths or hydatids, fibroid or other tumors likewise obstruct and cause pain. Profuse chronic nasal catarrhal discharges sometimes produce amenorrhœa ; so might, we may believe, an abundant hemorrhoidal bleeding even if not vicarious.

The long list of so-called emmenagogues might be divided into three general classes, as—

First. Stimulants, including such remedies as hot draughts of teas, quinine, ginger, juniper, hot foot bathing, etc.

Second. Remedies that tend to engorge the pelvic organs, as warm sitting baths, aloes, tansy, warm vaginal injections, ergot, cotton root, savin, cantharides, guaiac, hellebore and irritant cathartics that act on the lower bowels.

Third. Remedies that will relieve engorgement and inflammation, and relax and quiet pain, as opium, hot stupes, hot sitting baths, hot vaginal injections, rest in lying-down position.

In the conditions mentioned of anæmia, and in the cases of delicate health, without any special organic disease, the relief by tonics suggests itself. In all cases of absent or deficient mēstruation the physician should have well-grounded opinions of the causes before resorting to stimulating and forcing measures of relief, or bad practice will be the result. So far as possible search for and remove the cause. In the unmarried there is sometimes atony or an insufficient development of uterus or the ovaries ; here dilatation, or local stimulation by means of the galvanic stem, or marriage, may complete the deficiency.

110. ETIOLOGY of Retroversion, Flexion and of Prolapsus Uteri.—To the second part of Vol. 11 *Zeitschrift f. Geburtshulfe u. Gynakologie* Küstner contributes an interesting article on the above subject.

After long experience and observation he has arrived at the following conclusions :

1. In the majority of healthy puerperæ it is easy by bimanual examination to produce a retroversion, and frequently a retroflexion of the uterus.

2. The increased voluntary abdominal pressure displaces the uterus in a different manner from gravitation. The former drives the uterus in about its own or the pelvic axis, towards the pelvic outlet.

3. When the uterine attachments (ligaments) are normal it is not possible, either in the puerperal or non-puerperal state, to bring the uterus into retroversion or retroflexion, either by excessive distension of the bladder alone, or by this with distended rectum, or by the latter alone, or finally with the assistance of the greatest voluntary abdominal pressure possible.

4. On the contrary, this is possible as soon as the uterine attachments have in any way become affected.

5. Or when the uterus is drawn so strongly to one side by cicatricial contraction, that the muscle tissue of one ligament on account of passive stretching, and the other on account of passive relaxation, can not perform their functions.

6. A large proportion of cases of retroflexion that occur in the latter part of the puerperium arise solely because there had existed previously (before gravidity) a retroflexion, and the muscle tissue, whether primarily by active or passive means, has thereby also become weakened.

7. On the contrary, as the result of clinical observation, it is highly improbable that the continued dorsal position of the healthy puerpera, frequently produces retroflexion.

8. It is also improbable that the dorsal position of women affected with septic poisoning in child-bed very often produce retroflexion.

9. It is also improbable that defective involution of the placental site on the anterior uterine wall frequently causes retroflexion.

10. Although the causes mentioned under 4 and 5 may give rise to a great number of cases of retroflexion, this number is comparatively insignificant when compared with the cases of retroflexion produced by the other diseases of the genitals.

11. It has been already demonstrated that a much larger number of cases of retroflexion originate during virginity and puberty, than has previously been suspected.

12. The virgin uterus is much easier to retrofect either bimanually, or from accidental causes, than the uterus which has been gravid.

13. In most cases retroflexion of the virgin uterus is to be considered as an arrest of development, having, perhaps, its analogy in the male in incomplete *descensus testiculorum* or cryptorchis.

111. LAPAROTOMY in Fibro-Myoma of the Uterus.—KOE-BELÉ gives (*Allg. Wiener Med. Zeitung*) the following indications for operative treatment :

1. A dangerous condition of the patient, the result of anæmia or the rapid growth of the tumor.

2. Development and rapid growth of the tumor in young women. The nearer the menopause the less urgent is surgical interference.

3. Origin of the tumor in the lower uterine segment, or in the ligamenta lata.

4. Great pain and weight caused by the tumor.

Contra-indications, or complication in the operation may be due to extensive adhesions, wedging of the tumor in the pelvic cavity, incurable or general disease of the patient. Pedunculated and

subperitoneal fibro-myoma may be treated by the intra-peritoneal method after ligating with silk. Small, sharply circumscribed tumors may often be enucleated, and the edges of the wound united, thereby saving the uterus intact.

Tumors of the body, or those extending into the ligamenta lata, are treated extra-peritoneally, with the wire or knotted cord, after being isolated from the ligament. The stump is treated with chloride of iron, fastened to the lower angle of the wound, and with the latter covered with iodoform.

Koebelé never sews the peritoneum. For the skin the twisted suture is used. Here and there deep sutures. The day after the operation the needle of the twisted suture is removed. Dressings are changed two or three times a day. Upon the wound charpie impregnated with iodoform is placed. On the second or third day collodion sutures.

112. RUPTURE of the Perineum: Perineorrhaphy. DR A. WYNN WILLIAMS, in the *British Med. Journal*.—The operation, as performed by myself, I will again attempt to describe.

The patient is placed on her back, the knees and thighs flexed and kept separate by means of an iron bar with knee-straps, and another round the neck and buckled at both ends to the bar—I believe the invention of Dr. Routh. By this means, the patient is kept perfectly immovable. An anæsthetic having been administered, the labiæ being held aside by an assistant, a horizontal incision is made on one side of the vulva, where the original fourchette commenced, nearly an inch in length. Thence a longitudinal incision along the edge of the vulva is made, and the mucous membrane is carefully dissected off to the full extent of the rupture. The same process is then gone through on the opposite side, and the mucous membrane is dissected back and removed with a pair of scissors. The edges of the fissure in the rectum are then vivified, care being taken at the same time to lay bare the ends of the ruptured sphincter ani, if ruptured; indeed, it is often advisable to cut through the sphincter ani.

The next step is to make two linear incisions on each side of the floor of the perineum to the extent of an inch or more, as required. Then, with much care, the fingers being in the rectum, a slight incision is made in the ruptured and puckered end of the perineal body (ably described by Dr. Savage). This body is then seized with a pair of forceps by the assistant, and put on the stretch; while its separation from the floor of the perineum is continued to the extent of the two lateral incisions. This is most easily done either by the handle of the scalpel, or even with the fingers.

The cutting portion of the operation being now completed, the requisite number of silkworm-gut sutures are inserted, and the fissure in the rectum closed; the ends of the sutures, cut short,

being left in the rectum. The perineal body or flap is then put on the stretch, and, if possible, brought up as high as the first horizontal incisions in the vulva. A long curved needle, with handle, is then passed through the external integument, care being taken to bring the point of the needle through the vivified portion internally, then through and across the vivified portion of the extended perineal body, and out again in like manner on the opposite side ; care being taken that the point of the needle should at no time pierce the mucous membrane. The first suture of strong silver wire is inserted a little above the anus. Two more will generally be found sufficient. The last suture is one of silkworm-gut, and is introduced by means of a long slightly curved needle. The point is first inserted through the vivified end of the sphincter ani on the left side ; then through the perineal body, and back again through the sphincter ani on the right side, and for the present left loose. The silver wire sutures are then tightened and twisted ; and, lastly, the assistant introduces his finger into the vagina, and presses the perineal body firmly against the rectum, whilst the ligature passed through the ends of the sphincter ani is tied. If necessary, one or more superficial gut sutures may be inserted between or above the wires. A pad of lint, dipped in a weak solution of iodine, is then applied, and retained in position by a T-bandage.

In what does this operation differ from that of Dr. Langenbeck ? In the first place, Dr. Langenbeck commenced his operation by the vivisection of the "spur" to the extent of five lines, intended to form a flap to lie on or over the rupture in the perineum, and fixed down by two or three sutures on each side ; then sutures are inserted into the fissured rectum, and drawn tight.

In the operation as performed by myself, I commence at the anterior and upper portion of the vagina, carry the vivisection right down to the end of the fissure, separate the perineal body from the floor of the vagina, put it on the stretch until it reaches the whole length of the vivisected parts ; pass the sutures through the labiæ and it, as also the sphincter ani. Thus the perineal body is fixed on the ruptured perinæum, and between the vivisected labia ; thus not only "preventing the fluids from coming into contact with the newly united parts," but giving a solid and firm support to the whole vagina, and also, by shortening the floor of the vagina, tending to draw the uterus upwards.

In cases of prolapsus with or without rupture, this operation, or, rather, the stitching the perineal body between the labia, gives such a firm support, that I have never failed to retain the uterus within the vagina, either without or with some kind of pessary. An India rubber ring, made with a watch-spring, I prefer.

The late Dr. Marion Sims witnessed me operate on a patient for complete prolapsus, who had been unsuccessfully operated on twenty-four years previously. Dr. Sims appeared rather skeptical

as to the utility of the operation, stating he had never seen a similar operation performed, and would like to know the result. With the assistance of a ring, she lives in comfort. As to Mr. Tait's operation, not having witnessed it, I can say nothing, except that it appears to me that it does not replace the various parts in their original position, or give a sufficient support to the perineum.

113. CHRONIC Metritis, Treatment of. DR. ARNSTEEN in the *Revue de therapeutique medico-chirurgicale* recommends the cauterization of the uterine cavity for the cure of chronic metritis. He says in substance that chronic metritis, as is well known, is always attended with irregular menstruation, the flow being too abundant or too scanty, and particularly during the period of induration the patient may at certain times flow freely and at times not at all. When the menstrual function is again regularly established it will be found that the uterus has regained its normal state. The efforts of the physician should therefore be directed to the restoration of normal menstruation. This result may be brought about by the active congestion induced by the cauterization. The introduction of the cauterizing instrument causing a contraction of the uterus which induces a rush of arterial blood which displaces the venous blood accumulated in that organ. The breaking down of the eschar during the following days brings about frequent contractions which have the same result. The cauterizations may be made, without the patient being confined to bed, every eight days, afterwards twice a week. Sensitiveness of the uterus, exudations, and inflammation of the neighboring organs are contra indications for the operation.

114. FIBRO-MYOMA of the Uterus, the Surgical Treatment of. DR. THOMAS SAVAGE, in the *British Medical Journal*.—Of the frequency of uterine fibroids there can be little doubt; and, with increasing experience, the cases do not seem to diminish in number, but rather the reverse.

As we all know, very many, the majority, require no surgical treatment at all; I shall not, therefore, refer further to this class, but to that very important one which demands surgical interference. Here a subdivision can be advantageously made: first, into those tumors which are treated from below, that is, *per vaginam*; and, secondly, those which can best, and perhaps only, be treated from above, that is, by abdominal section.

With the first subdivision of cases, the removal of a polypus by the *écraseur* is included, as this form of tumor is only an advanced stage of a submucous growth, having become pediculated by a process of squeezing exercised upon it by a contracting uterus. Submucous growths of large size will sometimes burst through their capsule, and be expelled in large masses *per vaginam*.

A natural and complete cure is thus effected. I have seen probably half a dozen of such cases. In imitation of this process, art has been able to step in, and, by incising the capsule of the tumor, and perhaps the cervix uteri as well, has given an opportunity and an opening through which the uterus has been enabled to push out the offending mass. This can, in suitable cases, be aided by a process of enucleation. Some years ago, this form of treatment was ably advocated by Dr. Alfred Meadows. There are, however, some very fatal objections to this course being adopted, except in a very small minority of cases, and those of exceptional suitability. The smallest objection is that such attempts are not always successful; not successful, I mean, in the sense of not attaining the object aimed at; the chief objection is the great fatality that attends the attempts at enucleation. Such is easily understood. Very frequently some form of dilatation of the cervix has to be made, and this, with the hemorrhage or other fluid present, gives rise to a foetid state of the discharges. If we now make a fresh wound, that is, a perfectly raw surface, we at once open the door for the introduction and absorption of septic matters; in fact, we deliberately inoculate the patient with sepsis. This is bad enough, and dangerous enough; but if we further make, from time to time, during the progress of the treatment, attempts at enucleation, we make fresh raw surfaces each time, and so intensify the evils.

The treatment of these tumors by abdominal section has, within the last few years, attracted a very great deal of attention, and has been attended with very gratifying results. Two methods are open to the surgeon, each of which is good in suitable cases. I refer to, first, removal of the uterine appendages, and, secondly, to hysterectomy.

When I am asked, before an operation involving abdominal section, what I am going to do? I always say: "I do not know; I propose to make, in the first instance, merely an abdominal section;" and this will most probably result in one of three courses. 1. A simple exploratory operation, where, finding I can not remove any thing, I close the wound again and the patient is none the worse. This becomes, with increasing experience, of course, less frequent. 2. Removal of the uterine appendages; when practicable, and appearing likely to answer the purpose. 3. Complete removal of the whole mass, or hysterectomy.

Removal of Uterine Appendages.—This operation should be practiced whenever it can be done. It would be better to do it when the tumor is very small. The earlier the better; because, at this period in the history of the case, the operation is easier, the appendages being more easily reached; and its object is quite as much, if not more, the prevention of further growth, as the diminution in size of what is already there. At this time, it is an operation almost absolutely devoid of danger and difficulty, and

leaves the patient with a very small scar, and perfectly able to enjoy life fully. When it is postponed until the tumor has become very large, difficulties arise. (a) The wound has often to be made of considerable size, even to the admitting the whole hand into the abdomen. This, though not adding materially to the danger, has a great influence on the after comfort of the patient. (b) There is increased difficulty of removing the appendages; sometimes amounting to absolute impossibility, on account of their position behind or beneath a large tumor. It is, in this operation, quite essential for success that both ovaries and both tubes should be completely removed. I have myself found that to do it on one side is no good whatever. This experience occurred to me in a large tumor, where I was able to remove the right ovary and tube, but could not possibly get at the left side. The appendages were out of reach—in fact, deep down in the pelvis, beneath the tumor. The tumor continued to grow and, some months afterwards, I performed hysterectomy, at which I found the left ovary and tube quite buried down in the pelvis. No trace of silk ligature or remnant of tube could be found on the right side. The rationale of the benefit to be derived from this operation is still a moot point. It would seem to depend on one or both of two causes: either (1) the diminution in the supply of blood, by the ligature of the broad ligament, and division of the spermatic artery; or (2) the suspension of the so-called ovarian influence, on which the functional activity of the uterus is dependent. Perhaps both factors have to do with the result attained, since it is necessary that both the tube and the ovary on each side should be completely removed.

The cases which are most likely to be benefited by this, which may be called the "minor" operation, are those myomata which give rise to hemorrhage.

I have come to the conclusion that, as a general rule of practice, as soon as a myoma has been definitely diagnosed, and is increasing in size, or is causing hemorrhage which is telling upon the health, removal of the appendages is a wise and justifiable proceeding to recommend.

Supravaginal Hysterectomy.—This is a much more serious undertaking. Of course it is very radical, and, when successful, there can be no doubt about the cure. I just now alluded to what I consider justifies the operation of removal of the appendages. I feel that very much more must be present before the surgeon could advise this much graver proceeding of hysterectomy. Subject to some modifications, I would say, if a patient under 40 or over 45 have a fibroid which is gradually though slowly (*a fortiori* quickly) increasing in size, giving rise to hemorrhage, which tells on the health and strength, so that she is unable to do her duties in the world, causing pains which, as is sometimes the case, unfit her for her duties, or, by its increasing size, is begin-

ning to exert injurious pressure on surrounding parts, as the rectum and bladder (the latter most frequently), that we are justified, in the presence of one or more of these disturbances to health, in recommending her to submit to an operation which will probably eventuate in the removal of the whole mass.

In reference to the operation, the first parts are similar in detail to ovariectomy. The incision has to be much longer, on account of the solid character of the tumor. A corkscrew, to pierce and drag out the tumor, is a great aid, and helps to minimize the length of the cut. As a rule, adhesions are not likely to be present, because there is not the same tendency to attacks of localized peritonitis, there being no abnormal fluid in close contiguity, as in many cystomata. I always pass a thick silk suture at the lower portion of the wound below the stump, and another immediately above the stump, so as to have these two sutures closely embracing the stump. It prevents the possibility of fluid running down the side of the stump, and effectually shuts off the peritoneal cavity. This is one of several details, the importance of attention to which I would accentuate, if success is to be attained. Another is the keeping of a sponge in the abdomen between the uterus and bladder; here fluid and blood may, during the operation, collect unobserved, and play hereafter an important part in an untoward result. Sponging out the cavity of the pelvis and abdomen, even though no fluid may appear to have collected, is important; and I now also frequently use a drainage-tube in addition. The arrangement of the stump with a clamp and pin is a matter that requires some little care and nicety, so that the wire-enclosed stump may lie comfortably on the lower angle of the wound. It is very necessary to attend to the proper tightening of the wire. If it be not tight enough, hemorrhage will ensue after a time from a gradual shrinking of the stump; this, if the surgeon be at hand, is easily controlled by a half or a complete turn of the screw. I recently lost a case on the seventh day from this cause. If the wire be too tight, it is apt to cause very rapid destruction of the distal end of the stump, with too early separation of the slough. When this occurs the proximal end of the stump sags down into the pelvis; the more readily, if the abdominal wall be thick or the tension great. At the end of four days, at which period I have known the clamp to separate, the exudation and lymph round the stump, which shuts off the peritoneal cavity, must, of necessity, be slight, and capable of being easily broken down; when, if such should occur from the efforts of coughing, straining, etc., the whole abdominal cavity is laid open, with intestine protruding, and the putrid stump at the bottom. This dangerous state has occurred twice to me. One of the patients died in consequence; the other recovered. One advantage of this particular kind of clamp is that we can regulate the tightness of the wire, which is

soft and pliable ; and we also have so admirable a command over hemorrhage, if it have not been screwed tight enough.

Of late, I have been in the habit of using the drainage-tube more frequently than I used to do, and much more, I know, than many operators. I do it for the sake of security. I am astonished at the very large amount of blood and serum which may be drawn off after the removal of fibroids. Of course, it is readily understood that, at first, after the sudden removal of a large solid mass, a considerable disturbance has arisen in the balance of the local circulation in the pelvis, and that a condition of stasis is relieved by osmosis. In a recent case, the amount of fluid was very considerable, and there were next day two or three fairly large blood-clots ; although I am quite sure that, on closing the wound, I left nothing behind either of blood or serum. I am at present inclined to drain every case, even though the cavity is considered to have been sponged perfectly dry ; and this, on account of the excessive sanguineous oozing noticed in so many instances. Perhaps one reason for this large quantity of bloody serum may be that the careful sponging has wiped off the endothelium from the serous surface of the visceral and parietal peritoneum. I have recently used drainage-tubes longer than those generally sold, and think that an advantage is gained by knowing that the tube is long enough to go down into the most dependent part of the pelvis, where fluid would be sure to collect. When I have lost a case after drainage, I have always felt that it was most probably because the tube was not quite efficient. I have had some made in Birmingham 8 inches long, and they appear to be long enough to reach through the deepest pelvis and thickest abdominal wall to the most dependent spot. I sometimes insert the tube through the upper portion of the wound, instead of near to the stump. This I do to prevent any interference with the early and sound healing of that portion of the wound which is near the stump ; and also that the track of the tube and the hole left by the removed clamp may not be in danger of coalescing. The hole left behind, soon after the clamp has come away, is wide and deep, a sort of bottomless pit, dreadful to look into and contemplate. You see putridity at the bottom, and know that the sides consist of only a few granulations, which intervene between life and almost certain death. To prevent the sagging down into the pelvis too soon, I have several times passed the suture which is immediately above the stump through a small portion of the uterus itself, just below the wire. This detail also helps in shutting off the peritoneal cavity. I noticed recently that Dr. Bantock has been doing the same thing.

Although the results of hysterectomy have improved in the last few years, very much in the same way as ovariectomy improved after it was taken up and carried out in a scientific manner, yet it does not seem likely that it will ever stand on an equality in its

results with ovariectomy. There are many circumstances connected with the nature of the case, and with the operation itself, that tend to cause a larger mortality. The best treatment of the pedicle or stump, now quite settled for ovariectomy, is still a matter for consideration in hysterectomy. For a few years, when the ovarian clamp was discarded, it was thought best to treat the uterine stump by ligature, and drop it in. Success did not follow this practice, as in the sister operation; and of late, recourse has again been had to the clamp, or extraperitoneal plan. Theoretically, the intraperitoneal method appears the most scientific, and various devices have been adopted to ensure its success: namely, tying the stump in segments by a number of ligatures; sewing the peritoneal edges together over the stump, so as to form a cap or covering over the raw surface; this is aided again by taking out a wedge-shaped piece from the stump on the distal side of the ligature, by the application of the actual cautery, and also by tying the vessels in the stump separately. Hemorrhage has proved a formidable danger in many instances, whether intra- or extra-peritoneal. The chief objections to the extra-peritoneal method are the greater liability to septic absorption, hemorrhage, the too early separation of the clamp, and much greater delay in the healing of the wound and subsequent convalescence. This latter objection, though not so important as the former ones, is yet a factor in the consideration.

As regards the causes of death, putting aside such unforeseen accidents as tetanus, hemorrhage, too early separation of clamp, etc., I think nearly all the deaths will be found to be due to septicæmia in one of its many manifestations. The symptoms which are most prominent in individual cases vary exceedingly.

I think we shall, ere long, forego using the term "surgical fever," and apply to the condition long known under that head the name of septic fever, or some such word, having a precise pathological meaning. That there need be no pyrexia or fever after a surgical operation is often seen by all.

Obstetrics.

115. UTERINE Hemorrhage, New Method of Treatment of. DR. RICHARDSON in the *Praktische Artz*, thus speaks of a new method of treating uterine hemorrhage, which consists in introducing into the external os a crystal of alum of the size of a hazel nut and pressing it back nearly to the internal os. The uterus quickly contracts forming a hard coagulum and arresting the

hemorrhage. He also notes that the alum beside its hemostatic power possesses also an antiseptic action, and that he has extracted clots of blood which had remained undecomposed in the cavity of the uterus for four or five days. He recommends removing carefully the placenta and blood clots before introducing the alum. Dr. Richardson has employed this method of treatment for twenty years with uniform success, and regards it as preferable to the means most commonly used, tamponing, injections, uterine friction, application of the electric current, injections of hot or cold water, cold douches to the abdomen, compression of the aorta, and injection of the perchloride of iron. Many of these require special instruments which are not always at hand; others require to be carried out at a great loss of time. Again the injection of styptics is not always free from danger, and the same objections lie against the application of cold. None of these objections apply to the use of the crystals of alum, or perhaps better still the crystals of the double sulphate of aluminum and ammonium. A fragment of crystal may be wrapped in a piece of gauze and introduced into the uterus, leaving an end of the gauze outside of the uterus for convenience in withdrawing the alum when desired. The contraction of the uterus is immediately obtained. This should be allowed to remain for two days without disturbance, at the end of which time an injection of warm water may be thrown into the vagina to wash away the clots of blood. The same treatment may also be employed for hemorrhages arising from other causes. Dr. Richardson having used it with success in two cases of cancer of the uterus with profuse hemorrhage.

116. *PROLONGED Gestation, a case of.*—Dr. STEELE BAILEY in the *Amer. Pract. and News* reports a case of gestation extending over ten months and the birth of a foetus thirty-three inches in length and weighing seventeen pounds.

Mrs. Blank, a primipara, twenty-four years of age, was taken in labor early in the afternoon of December 30, 1885, but did not think it necessary to send for her physician until toward nightfall. When he arrived he made an examination and found only a feeble measure of uterine contraction, sufficient, however, to cause some degree of physical suffering. The pains were irregular and of short duration. The cervix was tense and rigid. He gave morphine hypodermically, which quieted his patient for two hours.

By 10 o'clock at night labor seemed progressing favorably, the pains possessing a markedly expulsive character, and inspiring hopes of a speedy termination. Her calls for relief induced him to administer chloroform during uterine contractions; this he continued for an hour or more. The patient being sensitive, he abstained from touching for some time. When he resorted to this measure, he was astonished to find the cervix, which had been dilating favorably, rigid, and all advance arrested. The amniotic

fluid had escaped, in fact was still escaping, and the uterus tightly closed upon its contents, while the only indications of contraction were a hardening of the womb at short intervals. Recognizing the condition to be an unusual one, he asked for counsel. By next morning, labor being no nearer termination than on the day before, the family requested that the writer be sent for. I reached the bedside in the forenoon. By the doctors I was told it was a slow labor, and still in the first stage; that the woman was in good condition; that the tediousness resulted from rigidity of the os and cervix and a redundancy of the liquor amnii, which had been escaping at each uterine contraction since their arrival the day before. I found the patient a large, fat woman, who was not suffering especially from fatigue; there was no fever or other bad symptoms. The pains were irregular, feeble, and did not influence the os. There appeared to be uterine insufficiency, which seemed to be less dependent upon the state of the lower part of the pelvic canal than defective action in the abdominal muscles; the thick layer of fat in the walls of the belly paralyzing to a certain extent the synergic action of these muscles and thus depriving the uterus of the aid which they habitually render.

As the patient had slept but little, and had begun to complain of fatigue, I suggested morphine hypodermically in the lumbar region, that she have a hot toddy, and the application, as an oxytocic, of hot mush poultices over the fundus, to be frequently renewed. I kept my finger within the os, which was thick, soft, and œdematous, for a time, to see if I could discover the cause of the difficulty, and also to note, if any, the effect of the hot poultices. I discovered a preternatural tenseness in the cervical muscular fibers, with absence of the lubricating and softening mucoid secretion, although the waters were leaking at each pain. This I considered the difficulty. A warm sitz-bath was recommended, while in my mind's eye incision of the cervix seemed a probable resort. Belladonna has been used in just such an emergency; atropia will dilate the pupil infallibly, yet it is not so with the os uteri. Barnes' dilators would have been the measure of relief par excellence. I could not think why there should be such a redundancy of liquor, unless there was an inflamed state of the amnion; but to this I was indifferent, knowing it to be consistent with both maternal and foetal health. It was now 3 P. M., the pains seemed promising, though griping and sharp, but there was a long and uncertain interval between them. The patient was in good spirits, and to hasten contractions, a cup of stimulating tea was given, with an occasional whiff of chloroform. By 5 o'clock P. M., the second stage of labor arrived, the head having passed through the os uteri. The pains were frequent, but without desired force; the patient grew restive, had some nausea, the vagina being hot, dry, and swollen. The diagnosis was now fully made. Head, of large size, was presenting in its greatest diameter.

The hot bath proved useful ; chloroform was given sparingly, to enable her to employ the potent factor of voluntary aid. Her will was good, the food and spirits having given her strength. The pains were regular and forcible, and everything seemed auspicious. The position of the foetal head, after it entered the brim, was the right occipito-sacro-iliac ; that is, the head was lying in the right oblique diameter of the pelvis and directed backward, with the occiput pointing to the right sacro-iliac synchondrosis, the forehead to the left foramen ovale. A most difficult position ; for, to be delivered in this position, the occiput must rotate forward along the right side of the pelvis, until, as Playfair says, it comes to lie almost in the antero-posterior diameter of the outlet, and passes under the pubic arch, the forehead passing over the perineum. The head was extremely flexed. A serious question was, when will rotation take place ? Before this can be done the chin must flex on the sternum. We waited, but the result was unsatisfactory ; the remedies indicated were ergot and the forceps. The anterior fontanelle was within easy reach of the finger, the contractions pushing down the occiput, the sinciput fixed behind the pubes, which, obviously it could not pass under as does the occiput in the first left occipito-cotyloid position. The perineum was enormously distended by the back part of the head, which was eventually expelled, the expelling force acting on the forehead and producing rotation of the head on its transverse axis, protruding the face and head. A finger slipped in brought down first one arm, then the other ; but now the fatal difficulty was in front of us. The body, with bearing-down pains, voluntary and uterine, did not and would not follow, and there it remained for many minutes ; at length, however, it was expelled, and the after-birth quickly followed. The foetus which met our gaze was simply enormous, the scales and tape showing it to be thirty-three inches in length and weighing seventeen pounds, naked. The vagina had grasped it with a vise-like grip, and while lingering there it died.

Our patient, Mrs. Blank, is the wife of an officer of the United States Army, and he is of opinion that her period of gestation extended beyond, by thirty days or more, the regular period. The beginning of the wife's last menstruation was on the 1st of March, 1885. She came to her father's home, accompanied by her husband, the 10th of November, expecting to be confined in this month or the first of December. He remained twenty days ; labor not coming on and his leave of absence expiring, he left for his post. Quickening is usually felt at four or four and a half months ; it is not a *reliable* guide, however. This Mrs. B. had perceptibly about the middle of July. She remembers this time vividly. Her husband corroborates these statements *in toto*. If 280 days or ten lunar months be the time of utero-gestation, she should have been confined the last of November or December 1st. This was not the case, for she fell sick December 30th, and was

delivered January 2d, 1886, of a foetus whose dimensions were greater than any at whose birth I have officiated.

117. PROLONGED Gestation.—In the *Journal of the Am. Med. Ass.* for January 30, 1886, DR. S. K. JACKSON, reports a case of gestation extending from July, 1884, to September, 1885, ending in the birth of a living child weighing eight pounds. The case presents several points of interest, among others that of being diagnosed by one physician as fibro-cystic tumor of the right ovary.

118. PROLONGED Gestation.—DR. NUNEZ ROSSIE in the *Am. Journal of Obstetrics* for January, 1886, gives in detail the history of a case of gestation induced by a single act of coition and extending over 317 days, or from the 6th of May, 1884, to the 19th March, 1885. The child which was delivered with the aid of forceps, was a male of extraordinary dimensions, measuring 54 cm. in length, and weighing 5,300 gms. It was born partially asphyxiated, but was resuscitated: it remained, however, in a semi-tetanic state, and slowly passing into coma died six hours after birth.

119. CÆSAREAN Section in the South.—DR. E. MILLER, M.D., thus writes upon the above subject in the *Atlanta Medical and Surgical Journal*. Pelvic deformities in women being very rarely met with in my own state, as well as the other obstacles to delivery which call for the performance of gastro-hysterotomy, this operation has been one of very great rarity when compared with the statistical records of several of our states. Of 136 cases collected by Dr. Robert P. Harris, of Philadelphia, nearly one-half of which have never been published by the operators, but two belong to the credit of this state, the first being that of King, of Edisto Island, who operated in 1816, and Dr. J. Walter Hill, of Edgefield, who operated, on October 9, 1869, upon a colored woman of 32, in her second labor, the cause of difficulty arising from vaginal obstruction following her first delivery twelve years before. This labor was one of six days, and was followed by inflammation, sloughing, contraction of the vagina, and a vesico-vaginal fistula. The pelvis was believed to be normal. Although the second labor lasted fifty-six hours, the woman and her son, "Julius Cæsar Gray," were saved; the abdominal wound healed in eleven days, and the boy is still living.

Two additional cases that have been published should be credited to South Carolina; both, however, proved fatal to mother and child. In August, 1856, Dr. T. R. Bass, after every effort to obtain the aid of a competent surgeon, as an absolute necessity operated on a woman, aged 23, white, whose coccyx and pubic bones did not seem to be more than one and a half inches apart,

and it seemed impossible for the smallest child to be delivered with any appliance of art. Her condition was good, pulse normal, with some prostration from four days' hard labor. Operation occupied five minutes. Chloroform used, six white silk sutures closed the wound, passed from within out, additional support was given by adhesive strips. The child, a large, fine boy, in feeble condition, rallied and did well, but sometime after died of dysentery. The mother rallied well from the operation, took a severe chill twenty-four hours after, followed by fever which never ceased. She died on the tenth or eleventh day. I am indebted to Dr. G. W. A. McRæ, of Florida (who writes from memory), for the above information.

The other case occurred in the practice of Dr. Lunney, of Darlington, about 1877, the precise date I have not been able to obtain, as no record of the case had been preserved. The patient lived near Darlington, was colored, age unknown, antero-posterior and transverse diameters of the pelvis were both too small; in labor five days. Craniotomy had been previously performed by Dr. Dargan, woman exhausted at the time of the operation, chloroform, death thirty hours after the operation. Dr. Lunney believes the mother could have been saved by an earlier resort to gastro-hysterotomy.

Although my own case had an unfortunate termination, owing largely to the low grade of health in the woman, complicated by eclampsia and a rupture of the uterus, I believe it my duty to report it, as I think all should be, for the benefit of obstetrical science. If all cases, whether successful or fatal, had been published, the work of collecting them would not have occupied the attention of Dr. Harris for sixteen years, and the medical world would have been much more generally acquainted with the causes of fatality and the requisites for success. Unfortunately for the cases operated upon, the accoucheur is seldom the operator, and the services of the latter are too often called for when it is too late to make his work a success. The high rate of foetal death in American cases is indicative of this, and the low rate of fatality, both in mothers and children, when the operation is *timely*, shows clearly that a very early resort to the knife is a lesson that should be learned by every one engaged in the practice of obstetrics, particularly among the poor of cities. But one other case of *gastro-hysterotomy* is recorded by Dr. Harris, in which a rupture of the uterus was found to have taken place when the abdomen was opened, and was enlarged by incision for the delivery of the foetus. This case occurred in Ohio, in 1833, and resulted in the recovery of the woman, but the child was lost: the rupture was a very slight one. This form of case must not be confounded with that of uterine laceration where the rent is sufficient for the exit of the foetus, and in which delivery is effected by *laparotomy*

without uterine incision ; such cases have no title to the name *Cæsarean*.

CASE.—The subject of my operation was a deformed and dwarfed mulatto, primipara, in her twentieth year, who had been confined to bed for fourteen years, during which period she had not been able to walk ; she would probably have measured about four feet or four feet two inches. She had been the subject of double coxalgia, and both joints were anchylosed, giving rise to a pelvic deformity, by which the superior strait was contracted in its conjugate to perhaps two and a half inches. Both of the

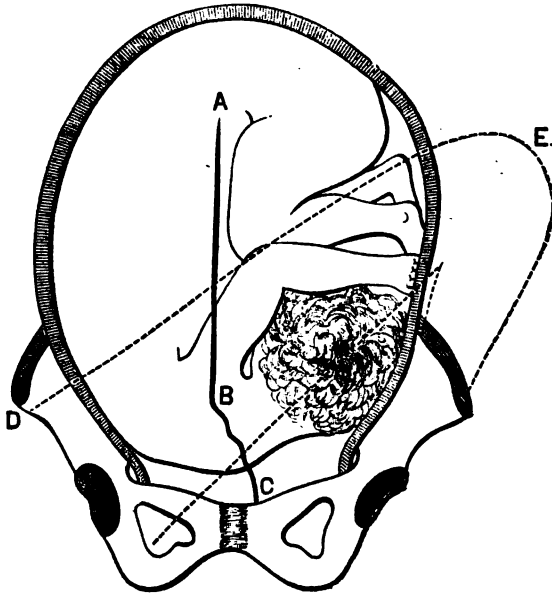


FIG. 1.

lower extremities were flexed upon the body, and the right one so much so that it rested obliquely upon the abdomen and indented it by pressure. They were much emaciated, were œdematous, and broken out with small sores and a scaly eruption ; there was also a deep, ragged ulcer midway between the vulva and anus, which presented the characteristic marks of syphilis. The woman lived in poverty, and weighed but sixty pounds ; she also presented in her legs some evidences of having been rickety in early childhood.

When taken in labor under the care of Dr. Jarrot, of Florence, she in time was seized with convulsions, for which he gave her two grains of sulphate of morphia, which, not relieving her, he

called upon me, and at my suggestion administered two more grains hypodermically, after which the convulsive movements ceased. I saw her for the first time on the morning of February 20, 1885, and found her breathing heavily. Her abdomen was tympanitic above the uterus, and there were no uterine contractions, these having ceased suddenly, giving rise to the belief that she may have ruptured her uterus. The os uteri was found of the size of a twenty-five cent piece, and the tissues relaxed; there was but little hemorrhage. We decided under all the difficulties of the case, to deliver by Cæsarean section. (Fig. 1.)

At the time of the operation the woman had been more or less in labor for thirty hours, and twenty-two hours had passed since

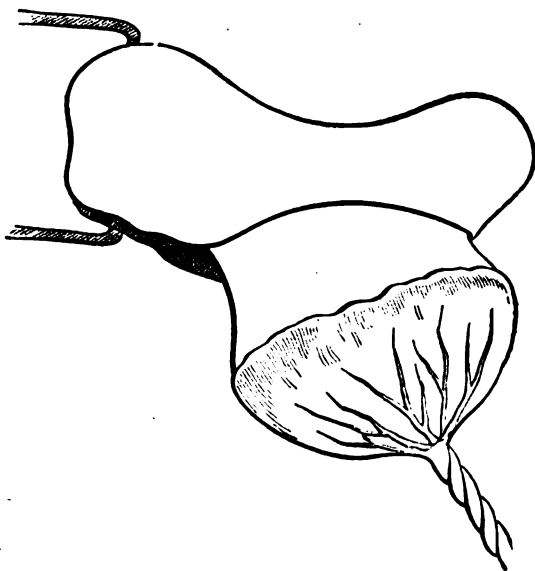


FIG. 2.

she had taken any morphia. She had a feeble pulse of 118, a respiration of 20, and her extremities were cold; being unconscious, no anæsthetic was used. An incision six inches long was made in the median line, and nearer to the umbilicus than the symphysis pubis, the flexure and ankylosis of the lower extremities making this necessary. The distended intestines were with much difficulty kept back, and were punctured in several places with a hypodermic needle to evacuate the gas. The incision of the uterus led into a rupture of the lower part of the body and cervix, opening the organ to the extent of about eleven inches, six inches of which were by incision. Although laceration was

believed to have taken place, it had not been positively located until cut into by the knife. After the uterus was opened the foetus was seized by the left arm and delivered, and the cord cut and tied. The uterus, in its contractions, now presented under the eye the curious phenomenon of inversion, the right antero-lateral portion, to which the placenta was attached, being driven through the uterine wound with the disk firmly adherent. (Fig. 2.)

Although an effort was made to detach the placenta, it seemed only to become more firmly fixed as the convexity outward increased and the parts became consolidated by contraction. Finding the placenta immovable, I with my two thumbs placed on either side of the cord at its origin, and my fingers spread out over the back of the uterus to antagonize them, readily indented the protruding portion, which, being started, became restored by a spontaneous movement. The uterus now contracted normally, and the placenta was gradually separated, the mouths of the blood-vessels being closed so perfectly that it was difficult to distinguish its former site.

The uterine wound was closed by thirteen silk sutures, but a portion of the rent in the neck was not sewed up, it being inaccessible because of its position under the right thigh; after the organ had fully contracted, the laceration was not distinguishable.

The patient lost but little blood from the operation, but when the abdomen was opened it was found to contain a considerable quantity mixed with amniotic fluid. The foetus was not weighed, but was above the average size. After the uterine wound was closed, I cleansed the abdominal cavity thoroughly and closed the wound with ten sutures. When half had been passed, the patient exhibited very unfavorable symptoms, and ether was administered hypodermically; an order was given to place bottles of hot water around her, but, regardless of instructions given prior to the operation, they had not been provided. As the last abdominal sutures were being passed she died. There were no symptoms indicative of opium poisoning, but the shock and depression resulting from the rupture of the uterus (which was the main reason for the operation) were so great that we believed from the first that the chances for recovery were as ten to one against her.

I am indebted to Dr. Harris for the following interesting facts and observations: "Of the 136 Cæsarean cases in my note-book, but one other died during the operation, which was performed in New York city in 1860 upon a patient nearing the maturity of gestation, but not in labor, who had been for six hours in convulsions. In no other American case is there a record of uterine inversion. This may be partly accounted for in your own by the extreme length of the uterine opening. As the organ had been a long time in a quiescent state and partly emptied, any slight trac-

tion upon the cord in removing the fœtus might indent the flaccid uterine wall and favor inversion if muscular contraction was at that moment revived. I do not remember to have seen any similar accident recorded of any foreign case. Your operation increases the list of American dwarf cases to 27 and the deaths thereof to 20 ; twelve children were delivered alive ; the number of Cæsarean operations in the United States is upon the increase, but their proportionate mortality much more than keeps pace with the growth in number. From April 7, 1884, to April 20, 1885, there were eight operations, all fatal but the last, and all of the children perished ; six of the cases were reported to me by letter. Of the 136 American cases, 58 have not yet been published, and but a very small fraction ever will be by their operators."

Since January 1, 1875, there have been 32 operations in the United States, saving 8 women and 14 children. In the preceding decade, 1865-1874, there were also 32 operations, saving 8 women and 10 children. From 1855 to 1864, 27 operations, with 12 women and 11 children saved ; and from 1845 to 1854, inclusive, 23 women operated upon, saving 13 of them and only 7 children. We are certainly retrograding in the measure of success, due very largely to delay ; of the last 50 operations 9 were performed early and 41 late ; hence the number of deaths both of women and children.

Since my operation there have been two women subjected to the same method of dealing. I learn from Dr. Harris these cases have not been published yet. One case was under Dr. Lungren, of Toledo, a homœopathic surgeon—woman four and a half days in labor, membranes ruptured two days, child dead two days, woman exhausted, respiration 36, temperature 102 1-5, pulse 130, recovered, 33. Single, Irish, primipara, 4 feet 11 inches ; strumous, weight 94 pounds, date, April 19, 1885.

The other operator was Dr. Parrish, of Philadelphia, September 20, 1885. Woman white, multipara, 35, German, forty-two hours in labor, membranes ruptured thirty hours. Three fibroids, in lower segment of the uterus, pulse 124, much exhausted, had been under care of a midwife ; operation in Philadelphia hospital. Woman died in twelve hours of exhaustion and septicæmia, child dead and putrid. Uterine wound treated after Sauger's method. From January 1, 1880, to present time, there have been in the United States twenty Cæsarean operations ; of the women, five were saved ; eight children were delivered alive, of which one lived only four hours and one thirty-two hours. Dr. Lungren save two of the five women and one child.

120. LACERATION of the Perineum in Primiparæ. Prevention of.—DR. J. ALGERNON TEMPLE, M. D., in the *British Medical Journal*, writes on the above subject as follows : For many years, I have been greatly disappointed with the means recom-

mended for prevention of laceration of the perineum ; and, after most careful study of the subject, I came to the conclusion that the only method of any value was to prevent extension of the head from occurring, and to compel it to be born in a state of forced flexion.

In primiparæ, the vulval orifice is small and resisting, and the occiput in its descent does not reach the pubic arch (as it does in multiparæ) before extension commences ; as a result of this extension, the long, occipito-frontal diameter, which measures about four inches and a half, is obliged to traverse the perineum, to be followed by the fronto-mental, which measures about three inches and a half, making in all part of a circle about eight or nine inches in length. This naturally stretches the perineum and vulval orifice to its utmost capacity, and it is during this time that rupture is apt to occur.

To guard against this overdilation in cases where I fear laceration, after the head has reached the floor of the pelvis, and just previously to extension, I have been in the habit of applying the short forceps, and then, by carrying the handles backwards, I flex the chin on the chest, while, at the same time, gentle traction is made downwards and backwards. In this way, I deliver the occiput first, keeping the chin close to the chest ; this brings the cervico-bregmatic diameter, which is but three inches and a half, through the vaginal orifice. This plan saves the perineum one inch or more of distension. I have had the best results from this practice, and have taught it to my class of students for the past three years.

I think this subject one of great importance, and worthy of a trial by any who may have any doubt as to its efficiency. In fact, I may say I am doubtful of the propriety of carrying the handles of the forceps forwards, as taught in the text-books, in any case.

121. PRECAUTIONS for the Prevention of Puerperal Fever.
DR. MACAN, in *Braithwaite's Retrospect*.—In considering the precautions necessary the fact is emphasized that we should keep quite separate in our minds the two great classes of infection—auto-infection, where the poison is generated within the woman, and hetero-infection, where the poison is introduced from without.

The latter class being by far the more numerous and dangerous, and almost always due to inoculation with septic matter introduced by the hands of the attendants or by instruments used in operations. Every hand and instrument likely to come in contact with a woman's genitals during pregnancy, labor and the puerperal state should be thoroughly disinfected. The bed linen and all napkins used about the patient should be kept perfectly clean. As soon as the child is born the woman is to be placed slightly on the back to prevent entrance of air into the vagina or uterus, and unnecessary handling of the parts after delivery should

be avoided. Before stitching a ruptured perineum or performing any operation, the vagina is injected with carbolic acid solution (1 in 40), and if it is necessary to introduce the hand, the uterus also is washed out. Vaginal and uterine tubes are best made of glass, and kept in carbolic acid solution.

Carbolic solution evaporated in the room day and night renders the air innocuous as possible.

In auto-infection, where the poison is generated within the woman, labor is complicated with a dead foetus, perhaps, a fibrous or cancerous tumor of the uterus, a post-partum hemorrhage with badly contracted uterus, followed by formation of clots, or the retention of portions of the placenta or membranes.

The uterus being badly contracted if air enters the vagina, decomposition of the uterine contents result. If the foetid discharge finds a free escape no bad result is likely to follow; but if the drainage is not perfect the discharge becomes more foetid, is absorbed by the system and auto-genetic puerperal fever results. The prophylaxis of auto-infection consists in preventing the air from entering the vagina or uterus, and in quickly removing any foetid accumulation that may have taken place in the uterus, disinfecting its cavity and providing free drainage. This is best done by having the woman lie somewhat on the back after delivery, and the proper application of the binder as preventing a negative pressure in the abdomen. This position is also valuable to prevent accumulations in utero, as the intra-abdominal pressure is then greater and gravity acts more thoroughly.

A distended bladder or anything preventing uterine contraction should be looked to. If the uterus contracts badly ergot should be given, and if the discharge becomes foetid, hot antiseptic vaginal injections are indicated, which remove the discharge and cause contraction. If discharge remains foetid and the temperature runs high for 24 or 36 hours, intra-uterine injections should be made, and an iodoform pessary introduced.

In all cases where the child is dead and there is any odor, the uterus should be washed out with a corrosive sublimate solution, and the iodoform pessary introduced. Iodoform has been used with the greatest success in the Rotunda Hospital. Apart from the antiseptic properties it also lessens the high temperature of puerperal fever.

122. TRAUMATIC Rupture of the Uterus. DR. PLENIO, in *Centralblatt für Gynäkologie*.—A primipara eight months pregnant fell from a loaded hay wagon, striking on the shoulders. She felt a severe pain in the abdomen, and became unconscious in a few minutes. She was taken to a neighboring hospital, where the diagnosis was made of traumatic rupture of the uterus, with a dead child lying free in the abdominal cavity. Laparotomy was performed, the child and placenta removed, and the rupture care-

fully closed with interrupted silk sutures. The laceration was on the anterior wall near the middle, and extended down near the median line to the os internum. A drainage-tube was inserted. The patient made a slow but complete recovery, having symptoms of septicæmia. The after treatment consisted of opiates, ergotin subcutaneously, and carbolic acid (3%) injections.

123. TWIN PREGNANCY, Death of one Fœtus, the other one carried to Term and Living.—PAUL HÉLOT reported in the *Allg. Med. Centr. Zeit.*, the following case to the Société de Médecine de Rouen: A woman of 24 years, primipara, was delivered at the Maternité, November 1, 1885. During her pregnancy she suffered from the usual nausea, but was otherwise well. Labor was natural, but the afterbirth looked queer. Eight centimeters from the insertion of the cord, on the foetal surface of the placenta, a small fœtus was observed, taking up a place of 6.5 : 3 cm. The head was bent on the thorax, the arms crossed, the lower extremities flexed upon the stomach, the feet crossed, in short, the characteristic position of a fœtus; the little fœtus was rather flattened out, inclosed in its own membranes, and perfectly isolated from its twin-sister.

Whether we may believe with Tarnnier and Chautreuil or with Dubois, that twins fight sometimes together in utero, so that we see one child strong, whereas the other is born stunted, or consider it with Hélot a disease of the membranes which produces this difference in nutrition, we lean to the opinion that after the atrophy of the placenta and after the absorption of the amniotic fluid, the death of this fœtus was the necessary consequence, and once dead the development of the healthy fœtus exposed it to a steady pressure and flattened it out. It seemed to have reached only an age of 2 1-2 months. Most remarkable was the preservation of the tissues, so that it nearly seemed as if the dead embryo had continued to live as an annex, without developing into an individuum. Another peculiarity of this case were the separate placentæ of the fœtus, as in most cases twins have only one common placenta.

124. INVERSION of the Uterus caused by too short Umbilical Cord. In the *Centralblatt für Gynäkologie*. DR. DYHRENFURTH.—The head engaged very slowly in the brim. Hydrocephalus was diagnosed and the head perforated. The cranial bones were fragile and the shoulders refused to engage in the brim. Firm traction by the cranioclast, however, brought them down and the body followed without any difficulty. As it was delivered, he tried to follow down the fundus with his hand as usual, but could not find it. At the same time there was severe hemorrhage and the nurse told him the cord was ruptured. He at once introduced his hand and

removed the placenta, finding at the same time the uterus inverted and the placental site against the internal os. He readily replaced the inversion and states that the ring or stricture of the inversion could be distinctly felt. This was followed by the intra-uterine injection of cold water. The uterine contractions were good and the hemorrhage ceased. The cord measured 3 1-2 centimetres or about an inch and a half. The patient left her bed on the thirteenth day.

125. TEARING away an Inverted Uterus. *Archiv. für Gynäkologie.* After an apparently normal delivery of a primipara, the midwife noticed a tumor between the thighs of the patients. A surgeon was called, who mistook it for a fibroid, and with much force tore it away together with the placenta on it. On account of its rarity he sent the preparation to the school for midwives in Stuttgart. Here, it was ascertained that the supposed tumor was the inverted uterus and its appendages. Immediately after the uterus was torn away, the intestines prolapsed from the vulva, but were replaced by the surgeon. They prolapsed again on the next day and were pushed back by the midwife. The patient died on the twelfth day after the injury. The necropsy showed that a long piece of the intestine was torn away from its mesentery. The surgeon was imprisoned for two and a half years.

126. COCAINE in Labor.—DR. DOLIRIS reports, *Arch. de tocolog.*, fifteen cases of primipara in which cocaine was used, generally in the forms of an oleate 4:100. With the exception of two cases, good results were always obtained. It was applied to the cervix during the first stage, or about the vulva and perineum during the expulsion of the head. In thirteen of the cases the pain was almost entirely relieved. Irrigations of corrosive sublimate had been used in the two unsuccessful cases and a portion of the fluid retained which Dr. Doliris thought interfered with the action of the cocaine. He did not think the pains were diminished any by it, but rather that the expulsive stage was shortened, as the patients suffered so much less they could bring the abdominal muscles into play and bear down to much better advantage.

127. COTTON Root in the Treatment of Uterine Hemorrhage.—MASSINI (*Korrespondenzbl. J. Schweiz., Aerzte; Ctrbl. f. klin. Med.*) thinks that this drug is to be regarded not only as an efficient substitute for ergot, but as having some advantages over that remedy. Although less prompt in its action, it is more enduring; hence, while it has been used successfully to increase the pains of labor and in uterine atony in the placental stage of labor, its most appropriate field is gynecological practice. In two cases of metrorrhagia at the menopause the author observed brilliant results from the use of the fluid extract, two or three teaspoonfuls daily.

128. TREATMENT of Puerperal Septicæmia through the blood.—In a thesis, published in the *Medical Press and Circular*, by DR. C. R. ILLINGWORTH, the following extract concerning puerperal septicæmia appears :—Here we have a disease in which every effort of nature against the absorption of infective material should be fostered and encouraged. The clots in the maternal sinuses after the separation of the placenta may be regarded as the evidence of this effort, and the preservation of their integrity until they become organized and contracted should be of paramount importance. Hence the advisability of avoiding agents which tend to soften and absorb fibrinous deposits and formations of this nature. Should infection by septic materials from the exterior have taken place, the efforts of the physician should be directed to strengthen the blood, and thus preserve the fortifications raised by natural means against further infection. This can only be effected by hæmatinic and astringent remedies, such as the perchloride of iron and dilute hydrochloric acid, with the assistance of quinine, chlorate of potash, etc., for the destruction of such germs as have found entrance to the circulation through the lymphatics. To give liquefacient remedies, such as ammonia, sodic salicylate, and potassic iodide is simply to break down the natural barrier described, and to further the absorption of septic materials by a diffused and weakened circulation—weakened by reason of its deficient fibrin-forming power and diffused to its own detriment through the midst of the infecting sources, on account of its greater fluidity. Infection of the blood, indeed, is thus doubly ensured, by medicinal liquefaction and septic softening of clots ; for wherever there is the development of sulphuretted hydrogen by the decomposition of animal matter, no fibrin can exist.

Besides cleansing the uterus and vagina with injections of Condry's fluid and carbolic oil, applying antiseptic unguents to any torn portions of the mucous membrane of the passages, and ordering a thorough washing of the external genitals two or three times a day, I prescribe as follows :—Recipe : *Liquoris ferri perchloridi* 3 j., *quinia disulphatis* ʒj., *glycerini* ʒ ss.—3 vj., *aquam* ad ʒ vj. *Misce et solve. Fiat mistura. Signetur : Capiat ægra semiunciam secundis horis.*

129. WHEN to Tie the Umbilical Cord.—DR. ENGEL, in the *Centbl. f. Gynäk.*, strongly recommends that the cord should not be tied till all pulsation in it has ceased, and in the course of his paper mentions the following facts as evidence of the importance to the child of the small quantity of blood thus saved to it :—“ He contrasts the mortality of all the premature children born in the Klausenburg Hospital during the last eight years, during the first four of which it was the custom to ligature the cord immediately on the birth of the child, while during the latter four the-

plan of treatment he advises was practiced. During the first period there were 90 premature undersized and underweighted children born, of whom 17, or 18.88 per cent., died within ten days of birth, while during the latter period there were 74 such births, of whom 10, or 13.51 per cent., died within the same time. In cases where the mother became feverish, a wet nurse was had recourse to. "This striking difference of mortality can only—in the absence of any other visible cause—be attributed to late ligation of the cord."

130. LACTATION and Medicaments. DR. FEHLING, *Bull. de Therap.*—If half a dram of salicylate of soda is administered, this substance is really found in the urine of the new-born. The passage is specially marked when the drug has been absorbed two hours before the nursing. Iodide of potassium acts like the salicylate of soda. Iodoform, even when used in very small quantity, passes into the milk. A simple sprinkling of this drug upon the vulva is sufficient to secure its appearance in the mammary secretion. It was not so with corrosive sublimate, of which it was possible to discover in the milk only very small quantities—so small that it was impossible to estimate them. The narcotics are without effect upon the nursling. The strongest doses of opium or of chloral administered to the nurses have not produced any special physiological effect upon the nursling. Atropine tested upon animals produced dilatation of the pupil in the nursling only when the maximum therapeutic dose was exceeded.

131. EXCESSIVE Vomiting of Pregnancy Instantly Relieved by Ether Irrigations upon the Epigastrium. DR. MENDEL, *Archiv. de Tocol.*—A young woman, primipara, of feeble constitution, had frequent vomiting since the second month of pregnancy. At the fifth month the vomiting became more persistent, and was accompanied in the intervals with nausea, fainting, and general malaise. In a few hours they became so frequent that they succeeded without interruption, producing syncope, absolute prostration of power, noises in the ears, chills, cold and profuse sweats, frequent and filiform pulse. Her life was manifestly in danger. Means the most varied to arrest this vomiting had been employed without result. In their turn antispasmodics had been used (ether, valerian, musk), then opiates, chloral, carbonated and iced drinks, iodine, internally and externally, blisters upon the epigastrium, hypodermic injection of morphine, ether, etc.; ultimately irrigation of ether upon the epigastrium was tried. The effect was instantaneous. A single irrigation sufficed to cut short the vomiting. The patient drew a few long breaths, said she was cured, and felt perfectly well. Later the vomiting returned twice, and each time the ether irrigations arrested all trouble.

132. ECLAMPSIA in Labor.—In the *Centralblatt für Gynäkologie* Dr. Reimann reports several cases treated by oxygen but without much success. He relies more on cool wet pack to excite the action of the skin than any thing else.

133. ORIGIN and significance of the Sexes and the Determination of sex in utero.—At the Philadelphia Obstetrical Society Dr. H. D. VALIN, as reported in the *Journal of the American Medical Association*, presented a paper under the above title, running as follows:—He said that it is not generally known that intermediate steps exist by which sexual generation is evolved from a primitive mode of conjugation of two or more similar organisms. The process of conjugation observed in the slime moulds resembles a sexual process of extreme simplicity. But this union seems to take place between undifferentiated individuals, and as no sexual organ or secretion is present, it could not be called sexual, and it is only a step higher than that observed by Ch. Robin in the noctiluca, individuals of which sometimes swallow others of their own species as they would a particle of food.

The evolution of the sexes is epitomized in the three following species of the volvox family : *Pandorina morum*, *Volvox globator* and *Volvox aureus*. In the first the spermatozooids are not differentiated from the granules of the ovum, in the second they are so differentiated, and in the third the two sexes exist each in a different colony.

In the animal kingdom, some species of mollusks contain an organ (ovo-testis) from which spermatozooids as well as ova are produced. In many animal species both sexes are contained in one individual, as in the case of tape-worm, leeches, earth-worms, barnacles, oysters, some star fishes ; and among the vertebrates such is the case in several species of serranus, as well as in other fishes. However, most of the vertebrated animals have the sexual organs distinct in two different individuals, but a condition closely resembling hermaphroditism often occurs by reversion as an anomaly : and should any one disbelieve that some remote progenitor of the whole vertebrate kingdom has been hermaphrodite there remains the facts "that at a very early embryonic period both sexes possess true male and female glands" (Darwin), and in each mature individual rudiments of some of the sexual organs of the opposite sex are extant.

The condition of hermaphrodite is advantageous enough as long as the struggle for existence is but slightly marked, but in higher life, where the least advantage is of moment, hermaphroditism gives rise to separate sexes in the following manner : those hermaphrodites whose spermatozooids and ova mingle with the generative products of other hermaphrodites breed a progeny which is more vigorous than that resulting from a single hermaphrodite, and

thus copulation between hermaphrodites became established in the struggle for existence : but this is an observed fact, for Darwin said : " There is reason to believe that with all hermaphrodites, two individuals, either occasionally or habitually, concur for the reproduction of their kind."

Of course that set of organs in one individual hermaphrodite which had been used more frequently would the better perform their function, while the opposite set would become less active ; and then we would find some hermaphrodites with better developed male organs, and others with better developed female organs ; and the progeny resulting from the union of two such more differentiated individuals would be especially favored in their struggle for life and would breed individuals in which one set of organs would be abortive, while the other would be highly developed, as is the case in as high an animal as man. Such a transitory stage as alluded to above is met in mollusks, and in the common oyster ; the genital cœca in any given individual are found to be either almost all ovigerous or almost all spermigerous (Huxley).

In the case of hermaphroditic human beings the organs of one sex almost always predominate over those of the other.

The foregoing facts and inferences warrant me in formulating the following hypothesis, which will explain the law of heredity : In hermaphrodites, while the organs of one sex become more highly evolved, at the expense, as it were, of the opposite sex's organs, this latter set, as embryology proves, is slow to disappear, and concentrates itself in the germinal matter. In other words, as the male organs become better developed, the spermatozoids acquire a faculty for developing a female offspring, and vice versa. This hypothesis is based chiefly on the facts that the queen bee (Huxley) contains a male germ in each of her unimpregnated ova, while the male bee transforms, by means of his spermatozoids, the same ova into females.

Determination of Sex in Utero.—In case each sex generally reproduces the opposite, as I claim, it is easy to understand why the number of each remains about stationary under ordinary circumstances. The law of Thury, of Switzerland, that "conception following menstruation produces females, and conception preceding menstruation produces males, harmonizes with my hypothesis if we consider that a greater number of spermatozoids and more active ova will reach the ovum in the uterus than would in the Fallopian tubes and in the ovaries, and should any given cause act to reduce one sex, the other sex would thrive the better and would reproduce a majority of the rarer sex, thus restoring the equilibrium, and insuring an equal number of either sex in the progeny.

134. TUBAL Pregnancy, a Marvelous Case of.—Reported by N.T. Tauski, M.D.—Mrs. H. D. æt. 38, mother of seven children,

on June 29th, ult., complained of absence of her menses, loss of appetite, sleeplessness, and general malaise. Prescribed hot mustard baths and quin. sulph. in five-grain doses three times a day, with other-wise good result except the menstrual trouble.

Examination did not reveal any state of pregnancy, there being a normal condition of the uterus. The usual remedies for suppressed menstruation proved useless; the lady in the meantime, complaining of puffiness and swelling on the left side, just under the ribs, especially towards evenings, so that she could breathe only with difficulty.

July 19. Same state of the organ, save a small tumor like elevation near the fundus, in the region of the left ovary. It must be a tubal pregnancy or a tumor, I stated to her, and advised further examination by other physicians of experience and authority. Her friends urged her to try their doctors. Among them was a certain Mrs. Brackmann alias Bergmann, a "lady doctor," in Elmwood Place, two miles north from here. This "doctor," after a careful examination of Mrs. H. D.—'s urine, pronounced her to be pregnant, with the foetus in the abdomen, and floating in an unusual quantity of fluids. But our patient did not seem to trust the "doctor's" art of telling the kind of pregnancy by a mere looking at the waters, and concluded to follow my advice. She consulted Dr. Thad A. Reamy, whose opinion was that she had either a tumor or abdominal pregnancy, he then being unable to detect any signs of foetal life. This was about the middle of October last. His second examination, however, dispelled the theory of tumor, as the child was playing quite palpably, but, according to all indications, in the abdomen.

November 11th she was again examined by Dr. Reamy and myself, with no other absolute proof whether it was a tubal or abdominal life; Dr. Reamy strongly inclining to the latter, the advanced stage of gestation seemingly loosing all claims to any probability of a tubal domain.

By this time the lady was in the eighth month of gravidity, and with no hope of surviving the ordeal, was preparing for a sure death, in spite of our trying to pacify her by citing many similar successful cases.

Dec. 24. I was called, she experiencing some pains, and what did not the examination reveal? The entire foetus descended into the womb! Mrs. D.— almost cried of joy when I announced the great possibility of a natural labor in a few days, though she thought the time was not as near yet.

Dec. 26 at one o'clock A. M., being hastily summoned, I found my patient in lively labor pains, though the organs did not seem to dilate. In a short time, however, I succeeded in arousing the uterus to welcome contractions, and in about one hour and a quarter a nine-pound girl began to cry and kick in the outer world.

The mother claims this to have been her easiest confinement. Quite a severe inflammation of the uterus scared me the following day, the organ swelling to an enormous size, but a few doses of quinia and a carbolic acid wash turned it all right again and now mother and child are enjoying a brilliant health.—*Ibid.*

135. PLACENTA PREVIA, Management of.—In a paper having this title, the author, Dr. MALCOLM MCLEAN, of New York, sums up the following conclusions:

First. In any case avoid the application of all chemical styptics, which only clog the vagina with inert coagula, and do not prevent hemorrhage. At the very first, the patient should be put in a state of absolute rest—body and mind—and a mild opiate is often desirable at this stage to quiet irritation.

Second. Inasmuch as the dangers from *hemorrhage* are greater than all else to both mother and child, at the earliest moment preparation should be made to *induce* premature labor, and labor being once started, the case should be closely watched to its termination by the accoucheur.

Third. In primiparæ, and in mothers with rigid tissues, the *vagina* should be well distended, by either the colpeurynter or tampon, as an adjuvant to the cervical dilatation.

Fourth. In the *majority* of cases generally, and in all cases especially where there is reason to believe that rapid delivery may be required, it is more safe to rely upon the *thorough, continuous* hydrostatic pressure of a Barnes's dilator than on pressure by the foetal parts.

Fifth. Where the implantation is only lateral or partial, and where there is no object of hurrying labor, bipolar version, drawing down a foot, and leaving one thigh to occlude and dilate the os, may be practiced according to the method of Braxton Hicks, except in cases where the head presents well at the os, when

Sixth, the membranes should be ruptured, the waters evacuated, and the head encouraged to engage in the cervico-vaginal canal.

Seventh. In the majority of cases, podalic version is to be preferred to application of the forceps within the os.

Eighth. In some cases, in the absence of sufficient assistance, or the necessary instruments, the complete vaginal tampon, in part or wholly of cotton, may be applied and left *in situ* until (within a reasonable time) it is dislodged by uterine contractions, and the voluntary efforts of the mother. In case of favorable presentation—occiput or breach—the tampon will not materially obstruct the descent of the child, and in some cases the tampon, placenta, and child will be expelled rapidly and safely without artificial assistance.

Ninth. The dangers of septic infection by means of the tam-

pon, or India rubber dilators are so slight, if properly used, as not to be considered as seriously impairing their great value.

Tenth. Whenever it is possible, dilatation and delivery ought to be *deliberately* accomplished in order to avoid maternal lacerations.

Finally. As cases of placenta previa offer special dangers from post-partum hemorrhages, septicemia, etc., the greatest care should be exercised in every detail of operation and nursing to avoid conveying septic material to the system of the mother.

136. OBSTETRICAL Heresies.—Dr. DANIEL MILLIKIN, in the *Med. and Surg. Reporter*.—If I hold to any heretical obstetric opinions, it is with regard to the constricted parts and the means of dilatation.

Now, first, as to the upper constriction at the os uteri. How shall it be safely and quickly dilated? The force of traditional doctrine is such as to breed in us a great reverence for the membranes which inclose the child and the fluid about it. We are taught that the hydraulic pressure exerted by the inclosed amniotic fluid is equal in all directions, and it is therefore the best possible dilator for the uterine mouth. A physicist might be inclined to inquire why the pressure is needed in all directions, since, to accomplish dilatation, there is only needed pressure in that plane in which the os uteri lies.

One with a theoretical knowledge of labor, knowing the position of the uterus at full term, would be inclined to say that the amniotic membranes, when they begin to pout forth from the os uteri, will expend their force chiefly on the mother's sacrum, and that the direct thrust of the membranes does not tend to open the os at all. Only indirectly—only after the bag of waters is actually engaged in the mouth of the uterus—does the lateral pressure exert any dilating influence.

But even when the bag of waters, seeking the direction of least resistance, has crept through the os and into the vagina, its dilating power does not seem to be great. I fully believe that most practitioners, like myself, lose all patience at this stage of the game, rupture the membranes, and terminate labor without the help of the bag of waters; but I recall one case, though I have seen others similar, in which I found the bag pressing on the perineum, and, on examination, I found only a small os. When the waters were evacuated, this thick and firm os was exposed to the tension of my fingers and the direct pressure of the child's head, and quickly softened, and stretched to the last degree. I learned from this case how perfectly inefficient this bag of waters was to accomplish any efficient stretching of the os. I learned that it was at least possible for a great amount of amniotic water, inclosed within a great amount of membranes, to be forced through a very small and distensible os, and yet cause no great amount of dilatation

when subsequent manipulation proved it to be not very hard to dilate.

The truth is, that the membranes lack the strength to make them efficient dilators. If they are nature's own dilators, then nature must be prejudiced in favor of a very rotten piece of apparatus. No mechanician, no obstetrician, would for a moment accept a set of dilators made of such flimsy stuff.

Then comes the question as to whether, the membranes being intact, it may not be better that the child should receive the unavoidable pressure of the uterus equally transmitted by hydraulic pressure on every part of its surface. It is claimed that a child may be injuriously compressed by the uterus, but who ever saw a case reported?

Aside from these questions of blood-pressure, we are told by all the traditions that it is not proper to rupture the membranes early, because the child's presenting part is liable to be thrust against the maternal bones, and so be bruised. Now, can any teacher tell us how the child's presenting part can be expelled without being rudely thrust against the mother's pelvic bones? In the first place, in many cases, the presenting part is actually forced into the superior strait, and not very gently. Then, at the inferior strait, the child's head is absolutely racked out of shape, or, as the books euphemistically say, it is "moulded," and it is oftentimes still further distorted. And, last of all, in passing through a tough, resisting perineum, it often meets with the severest constriction, as from a firm elastic band slipped down from the occiput to the chin. All of this being inevitable in a first labor of a plump woman with a moderately large pelvis, and much of it being inevitable in all labors, what folly for us to be timid or squeamish about the lesser degree of compression against the bones at the brim of the pelvis in the earliest stage of labor! Granting that by a careful saving of the membranes we can, without otherwise impeding labor, save the child from this lesser degree of compression at the brim, what's the use of it?

The more I turn this matter over, the more I become convinced that the membranes have no relation to normal labor whatever. Their function has been performed when labor has begun. They maintained the water-bath during the feeble, earlier existence of the child, but when labor is at hand, the hour has come when the child must surrender its water-bath. It is thenceforth to come against harder structures, not alone during the processes of parturition, but for threescore and ten years.

It follows that, if the attendant is certain that labor has actually begun, and that the presentation of the child is a natural one so that no turning operation will be needed, he had better evacuate the waters at once. In coming to a conclusion as to whether labor has actually begun, I would, of course, regard the state of the cervix and os. There should be no cervix appreciable, for, so

long as it remains, there must be some small element of doubt as to whether labor has actually begun, notwithstanding all that we may be able to learn of the duration of pregnancy by other means. As to the os, I would not ordinarily rupture the membranes unless its margins were somewhat soft and distensible; not because I believed that the bag of waters was needed to dilate its margins, but because I would doubt whether labor had actually begun until there was a certain degree of physiological softening.

With these provisos—labor actually begun, no turning operation needed, the cervix inappreciable, the margins of the os becoming soft—the sooner the membranes are ruptured the better.

And why? I might answer this question by the formula which Fortenelle declared had produced more wisdom than any other. *Why not?* The membranes are fetal structures; the fetus is about to become a child; a child needs no membranes.

By evacuating the uterus we shorten its fibers, and thus stimulate powerful contractions.

I offer no sort of excuses for advocating an expedient which will abbreviate labor. Other things being equal, a short labor is a good labor. It is better for a woman to have one hundred sharp pains than two hundred; it is better for her to have fifty than one hundred; and the most beautiful labors I have witnessed in four hundred have been those with only fifteen or twenty hard pains.

It cannot be conceived that women of refinement and luxury have the endurance of women who lived the lives of peasants or of pioneers. Nor do I think that the women of this country, which is fast becoming an old country, have the patience that belonged to their mothers or grandmothers. They are absolutely fretted to death by a long labor in many cases, and the accoucheur should give them a short labor if he can.

Then it is not to be believed that the present generation of women can endure pain as did the women of the past. For all child-bearing women of the present time have been born since the skillful use of opiates, of chloroform, of chloral, of ether, and of the hypodermic syringe, have been common; and now comes the hydrochlorate of cocaine to be freely applied in domestic practice to all little cuts and hurts, so that the ministry of pain, educating men and women to endure pain, is almost at an end. This ability of endurance is likely to be still further lowered in the next generation.

After a careful review of my obstetric cases, I can deliberately say that the parturient canal is as well lubricated when there are no waters as when there are waters oozing during the whole period of expulsion. The vagina is fully lubricated during the ordinary sexual orgasm, and on short notice; the same vaginal and uterine glands seldom fail us in labor.

Returning to the proper mode of dilatation of the os uteri, let me appeal to the practice of all obstetricians when they wish to

accomplish the dilatation from below, in case of induced labor at or before term. They do not in any case use anything to be compared with the bag of waters. They use the dilators that are like glove-stretchers. Then they use the finger. Possibly, at some stage of the game, they use tents. After the finger they use two fingers. Then they use more fingers, until they have all the dilatation that they need. The rubber dilators are in no wise comparable to the bag of waters.

The application of the narrow forceps to the head of the child is one of the very best expedients of modern obstetrics.

And now, sir, suffer me a few words as regarding the dilatation of the lower end of the parturient canal. The traditions of the fathers tell us nothing of the value of the membranes, in dilating this portion of the canal. The reason is perfectly obvious. So frail are the membranes that it is not the lot of many practitioners of medicine to have ever seen them projected so far. If of use at the upper end of the canal, they ought to be of use also at the lower; and nature is guilty of a serious blunder in not having them made strong enough to endure until they could dilate the tough sphincter structure of the vaginal opening.

The traditions say nothing about the perineal structures until the head has reached them. Then when the head of the child has borne heavily upon these structures, a most astonishing performance is resorted to and recommended to you and me. This maneuver is called the support of the perineum.

Let us clearly bear in mind one of the first principles of obstetrics. We cannot pass a head measuring thirteen inches thro' a hole measuring one whit less than thirteen inches. The perineum must stretch to the full size of the head, whatever it be, unless we deliver it through the rectum. Nothing can save it from such stretching, though I do firmly believe that there are many men who, by faithfully pressing upon the poor woman's bottom for a season, imagine they have saved the perineum from a certain amount of dilatation that would have been inevitable otherwise.

We may lay a napkin over the hand and support the perineum in the most approved manner; but by that act, through a circuitous route, we are really goading the uterus on to expel the child, and in spite of our protestations and commands, the woman will co-operate. The man who thinks he can retard the expulsion of a child, by pressing against his head through the perineum, is, I am fully convinced, deceived. He is like one pressing the button to stop the ringing of an electric bell: he is tugging at the throttle of an engine to check its speed; he tries to flog a runaway horse into good behavior.

Not so with the obstetrician who thinks that by pressure he can do something to alter the physiological state of the perineal structures, and fit them for the enormous dilatation to which they must presently submit, as the head passes into the world. But

when we find him at his work, we may fitly ask him why he does violence to the perineum from the outside. Seeing that it must presently stretch, why not begin to stretch from the inside? It has been my practice for about two hundred labors to drag down on the perineum with two fingers, and sometimes with three, just before the descending head has begun to impinge upon it, and I have friends and neighbors who have resorted to the same procedure during the management of at least two hundred labors more. We are well assured that, if the labor does not approach the precipitate character—that is, if there are ten to twenty pains during which we may make traction in advance of the head—there is, without any additional suffering to the woman, a very decided alteration in the perineal structure, and in many cases we find it fully prepared for the passage of the head before the head is perfectly free from the pelvis. This may and must be done with reasonable force and synchronously with the expulsive efforts of the woman, so that no addition is made to her sufferings. Indeed, when I have cautiously resorted to this tension, I have often seen my patient brighten up and say, “Now I feel like I was working for something!”

But you may ask, “What’s to be done when the head is absolutely distending the perineum?” I can only say that if at the supreme moment you have any little bit or scrap of a prayer about you, you may say it, but you can’t help the poor woman by tinkering with her. The perineum must stretch until the vulvar circumference is precisely as great as the circumference of the child’s head. The time for stretching has come, and you can’t avert it.

Unless pressure on the outside of the perineum can in some mysterious way save the [perineum from stretching, it is, in my humble opinion, a superfluous annoyance to a poor creature who ought not to be annoyed.

Let us hear the conclusion of the whole matter: “*The fingers and the presenting part of the child form the only efficient dilators of the constrictive parts of the parturient canal.*”

137. DETERMINATION of the Sex of the Fœtus.—Senor JUAN B. BIDART has examined one hundred women, toward the termination of pregnancy, with a view of determining the sex of the child before birth. He concludes that when the number of beats of the child’s heart is below 135 a minute, the child is usually a boy, and when the number is above 145 it is generally a girl. He diagnosed the sex correctly in 92 per cent. of the cases. When the beats were between 135 and 145 it was quite impossible to do more than guess at the sex.

Pædiatrics.

138. ENURESIS Nocturna and Nasal Obstruction.—That enuresis nocturna is frequently associated with impediment and obstruction to free breathing through the nose has been claimed by Major, a Canadian physician. Dr. Zeim, of Danzig, corroborates this in the *Allgem. Medical Centralzeitung*.

Appropriate local treatment of the nasal cavities is said to lead to relief and cure of the enuresis.

This is a practical suggestion that certainly merits our attention.

The connection between the two troubles and the causal relationship to the enuresis is sought in the relative respiratory deficiency, and consequent carbonic acid intoxication, that follows in individuals that breathe through the mouth.—*Medical Review*.

139. PEROXIDE of Hydrogen in Diphtheria.—VOGELSAUG has had remarkably successful results with the above remedy. For internal use, he orders, 120 grams (about four ounces) of the peroxide with three grams (about $\frac{3}{4}$ drachm) of glycerine. Of this mixture, one teaspoonfull was given at intervals of one-half to two hours.

140. PROGRESSIVE Pseudo-hypertrophy and Atrophy of the muscle in infants.—DR. N. JAKABOVITSCH, in the *Revue de maladies de l'enfance*. The author regards the pseudo-hypertrophy and atrophy of the muscles as simple varieties of one and the same affection. He has seen two cases of that rare malady, about which so little is known, which he has endeavored to describe as completely as possible. The following are the conclusions at which he has arrived after patient and continued investigation :

First. The diminution of the quantity of urea, uric acid and creatine in the urine of the invalid, shows an interference with the complete assimilation of the albuminoids.

Second. That from the smaller amount than normal of chloride of sodium there is a decrease in the assimilation in general.

Third. The diminution of the creatine confirms the opinion of those who regard it as the product of the secretion of muscular tissue.

Fourth. The increased quantity of sulphuric acid contained in the urine, confirms the assertion of Bence-Jones, that diseases of the muscular system would be characterized by the increase of the sulphates secreted in the urine.

Fifth. If, as believed by Heller, organic diseases of the spinal cord are accompanied by a diminution of the quantity of sulphates eliminated by the urine, the disease in question does not originate in the medulla.

Sixth. The diminution of the temperature of the surface, without a corresponding decrease of the internal temperature, indicates a decrease in the evolution of heat by the muscular tissue.

Seventh. The electric excitability of the muscles is greatly diminished.

In one of the two cases, the author was able to examine sections of the muscular tissue, taken with the permission of the mother, from various muscles of the child. A resumé of the changes found in structure is as follows :

The intermuscular connective tissue was more than normally abundant. Sometimes it was supplanted by an excess of adipose tissue. In the muscular fibers the transverse striæ disappeared, the fibers presenting the appearance of bundles of undulating threads. In other portions the longitudinal striæ disappeared completely. Sometimes the muscular fiber was twisted into spirals, disposed in zig-zags, etc. Fat was found, not only between, but also in the interior of the fascia. The sarcolemma appeared thickened.

Microscopical examination showed not only a pseudo-hypertrophy, that is to say, the production of an abnormal amount of connective tissue, but at the same time a true atrophy of muscular tissue.

These facts have convinced the author that the pseudo-hypertrophy, and atrophy are only two manifestations of one and the same disease.

141. TUBERCULAR Meningitis by Phosphorus, Treatment of.—Discouraged by numerous failures in the treatment of this disease, M. H. GREENWAY conceived the idea of employing, in a desperate case, phosphorus administered in alternation with the medicine usually given, of which the inutility has been often demonstrated, but which are still imposed by tradition. He used the French preparation known as Fauconnet's syrup of phosphorus. At the expiration of twenty-four hours from commencing the use of the new remedy he could discover a decided amelioration in the state of the disease, although the case had previously seemed hopeless and all intervention condemned in advance. In a few days later all serious symptoms had disappeared, and in three weeks health was restored ; and although the child for some time remained excitable it finally attained perfect health.

In another case phosphorus was prescribed alone with similar success. In an infant, also, suffering from chronic hydrocephalus, not only was the meningitis cured, but the dimensions of the head were notably reduced. The youngest child treated was a little

girl of one and a half years, in the last degree of marasmus, and in complication with mesentery tuberculosis. The signs of meningitis were plainly perceptible; rotation of the head, characteristic face and *cri meningitique*, etc. At the end of seven days all symptoms of meningitis had disappeared. The child naturally continued feeble on account of its defective constitution. The author prescribes as a dose from one to two milligr. of phosphorus for each year of the child's age, repeating every four hours if necessary.—*Revue des malades de l'enfance*.

142. DIPHTHERIA with Balsam of Peru and Oil of Turpentine, Treatment of.—Dr. R. OFNER writes in substance as follows to the *Centralblatt für die gesammte Therapie*: In 1878 I was physician to a factory and general practitioner at Pohrlitz, a village in Southern Marheen, a place subject to all disease, including the universally known and dreaded diphtheria. My father was also a physician, and was in the habit of treating wounds almost exclusively with balsam Peru. As I look upon the tonsils in diphtheria as wounds, and as the medicaments generally used in treating it have no decided effect, remembering my father's practice, I resolved to use the balsam Peru. As it is too thick in the natural state for use in mopping the throat, I thinned it with turpentine before applying with a small brush. The results were surprising. Cases exhibiting very dangerous tendencies, recovered in three or four days, and mild cases often healed after one or two moppings. I do not always give medicine internally. If the child can gargle, which ought to be taught to every child, give chlorate of potassa as a mouth-wash. Chlorate of potassa furthers the expulsion of masses of mucus, otherwise it accomplishes almost nothing.

When the membrane is tolerably large, the patient very delicate, or I see that I must prescribe something, I give the following:

℞. Vitelli ovi.....No. j.
 Aquæ..... q. s.
 Pulv. Emulsionis,
 Ol. Terebinth, gtt. x..... ad 2.0

Sig. One spoonful every two hours.

I am fond of prescribing turpentine in this way, and give it not only in diphtheria but also in pneumonia, gastro-intestinal catarrh, etc.

That diphtheria under this treatment will become harmless I do not affirm, but I can say that balsam Peru is an antidote.

143. DIPHTHERIA, Treatment of. PROF. DA COSTA.—*Peoria Med. Jour.*—Diphtheria may continue in an individual for a long time, relapses occurring from self-infection. Treatment must be preventive and individual. In the first place the strictest

isolation must be enforced ; remove all unnecessary furniture, clothing and the like from the room ; disinfect the sputa, linen and everything from the patient, and, if possible, remove the paper from the walls and wash with some disinfectant. Do not allow members of the family to come in contact with well children, for fear the former may convey the poison to the latter.

The individual treatment is both general and local. In the former, *alimentation* and *stimulation* are of the greatest importance, given, as in typhoid, every two or three hours, day and night. Alcohol is given to the point of tolerance. Begin with $\frac{1}{4}$ dr. to 1 dr. of brandy every hour ; increase till heart and pulse are improved. The amount a patient suffering with diphtheria can take is incredible ; a child aged 2 years has been given a tablespoonful of brandy every hour, and 1 dr. is quite common. There is present a condition comparable to that found in snake poisoning. Begin the stimulus early.

As to *medicines*, one of the earliest and best treatments is by potassium chlorate, 1 dr. to $1\frac{1}{2}$ dr. per diem, in divided doses, well diluted. Next to this, either alone or combined with it, is tinctura ferri chloridi, gtt. x every hour or two, for a child aged 10 years.

The rising treatment now is with calomel. It consists in giving large doses frequently, not minding the free movements from the bowels. Give one grain every hour till twelve doses have been taken, then the same amount every second hour. This has been often tried in the *laryngeal* form, in larger doses, and is of especial utility in this variety of the disease.

Corrosive sublimate, gr. $\frac{1}{10}$ to $\frac{1}{11}$, every hour, is a similar but hardly as effective treatment.

Jaborandi is a very new remedy in this trouble. The idea is that when the patient sweats well the membrane will loosen. As it is very depressing, it is not safe unless the patient is quite strong.

Locally, strong caustics have been abandoned. Cleansing, disinfecting gargles are the modern treatment. Carbolic acid, with borax and soda, may be used. Thymol holds a high place, never weaker than ten grains to the ounce.

R.	Thymol,	1 dr.	
	Glycerini,	3 dr.	
	Aquæ,	$1\frac{1}{8}$ oz.	M.

SIG.—Gargle. Dilute if necessary.

Potassium permanganate of potassium, a favorite with the English, equal parts of lime water and glycerine, or two parts of the former to one of the latter, are very useful and grateful. When the patient is old enough, these are best used in the form of spray. Equal parts of Monsel's solution and glycerine may be used when the redness and swelling are very great. Do not scrape the membrane.

The most prominent among the solvents for the membrane are lime, bromine and pepsine. Of lime, it is difficult to get enough. Bromine is too irritating. The remedy that has done best is a saturated solution of pepsine in the form of spray.

Lactic acid, jaborandi and numerous other agents which have been used for this purpose have some solvent power, but not enough.

Complications or Varieties.—For *nasal diphtheria*, in addition to the ordinary treatment, carried on, if anything, more actively, keep the posterior nares well washed out with—

R.	Sodii sulphitis,	3 dr.	
	Glycerini,	2 dr.	
	Aquæ,	q. s., ad.	4 oz. M.

Pepsine may prove yet more effective. This washes away the membrane, checks decomposition of the same and prevents blood-poisoning. Use with the post-nasal syringe.

In *laryngeal diphtheria*, besides the ordinary treatment, the best results have been obtained by having the patient breathe the fumes from slaking lime. Also an occasional emetic, while patient has sufficient strength, does good.

(The new preparation of Messrs. W. F. Kidder & Co.,—non-hydrosopic crust pepsine—having superior digestive power, possesses marked advantages for forming a solvent solution for spraying the throat in these cases.—ED.)

144. DAMP and Diphtheria.—H. NELSON HARDY, in the *British Med. Journal*.—A series of cases of diphtheria which has occurred in connection with one of the Dulwich police-stations, seems to show that there are good grounds for the belief that there is some special connection between damp houses and the development of diphtheria; though other unsanitary conditions, no doubt, powerfully contribute to prepare a soil favorable to the spread of the disease.

The cases I am about to relate occurred, for the most part, in the persons of strong, able-bodied young men. There was no epidemic of the disease in the neighborhood at the time; indeed, inquiries made of the sanitary authorities of the district showed that, with the exception of the police affected, the district was singularly free from the disease; and the one thing in common to all the patients was, that they were more or less intimately connected with a damp and unhealthy station, their duty obliging some of them to live in it, and all of them to be in it for a considerable portion of each day. The station is an old dwelling-house, consisting of two stories, not originally built for a police-station, but converted into one some years ago, before sanitary considerations began to occupy so much attention as they do now, and the water-closets and drains had never, previously to this outbreak of diphtheria, been in a satisfactory state. Two families

belonging to the force had occupied the rooms not used as police-offices ; namely, an inspector and his wife and family, having two rooms on the ground-floor, and one on the first floor ; and a mounted constable and his wife and children, occupying the remainder of the upper rooms.

On December 24th, 1884, a constable, aged 19, who had been less than six months in the force, and had had no previous illness while in it, had a pretty severe attack of diphtheria, was convalescent on January 7th, 1885, and was then granted a month's sick leave, returning to duty on February 7th, 1885. On January 29th, 1885, the mounted constable, aged 30, already referred to as living in the upper rooms of the station, who had been twelve years in the force, and whose only illness had been an attack of diarrhœa, was attacked, had a prolonged and very severe illness, was not convalescent till the beginning of March, and was then granted a month's leave.

On February 20th, 1885, a constable, aged 25, who had been two years in the force without any previous illness, took diphtheria, had it slightly, was convalescent on March 2nd, and was then granted a month's leave of absence.

On April 13th, 1885, a constable, aged 32, who had been six years in the force, and had no illness of importance during that time, but whose duties rendered it necessary for him to spend more hours in the station than most of the other men did, took the disease not very severely ; on April 28th he was convalescent, and was then granted the usual month's leave of absence.

After this, there was a lull for about six months, during which no more cases appeared among those connected with the station ; and it was hoped that certain measures which had been taken to remedy the sanitary defects of the building, had proved successful in checking the spread of the disease, a supply of water having been laid on to the men's urinal for the first time, and a water-closet which ventilated into the men's parade-room having been closed. I should add that the whole station is condemned, and only used until a new one can be got ready. A change had also taken place in the family occupying the lower rooms of the station, a new inspector having come, and brought with him his newly married wife, a strong, healthy-looking young woman from Essex. On November 28th, 1885, this young woman was taken ill with diphtheria, and had a moderately severe attack which lasted till December 13th. On examining the walls of the two rooms on the ground floor, occupied as kitchen and sitting-room by her and her husband, I found them damp for a considerable distance from the floor, varying from one to two feet, along the outer wall of the house. No furniture could be left standing against this wall without becoming damp. Even in the kitchen, where a fire was constantly burning, and gas very often alight, as it was rather a dark room, the wall was constantly damp ; and the

floor-cloth covering the kitchen floor, on being turned up, was found to be damp and moldy. I advised the authorities that these rooms were unfit for habitation, and the inspector and his wife were in consequence moved into the upper rooms, which the mounted constable and his family had to leave and find lodgings elsewhere. On December 23rd, 1885, this mounted constable, who still, of course, was a good deal at the station seeing to his horse, was taken ill with the disease for the second time, not nearly so severely as the first time, and was convalescent on January 5th, 1886.

On January 8th, his youngest child, aged 3, had taken diphtheria, and was ill till January 22d. Thus, out of a total of about forty persons immediately connected with the station (2 inspectors, 30 men, 2 wives living at the station, 3 or perhaps 5 children, ditto), there have been, in little more than twelve months, no fewer than seven cases of diphtheria, three of which happened after the graver sanitary defects of the building had been remedied, and the dampness alone remained perceptible to the senses. I am far from saying that there may not be other defects which a thorough examination into the drainage and foundations of the house would reveal ; but, in the present state of our knowledge of the subject, the above facts seem worth recording.

145. CONTAGIOUSNESS of Variola at the Beginning of the Eruption.—LANCEREAUX reports three cases occurring in his hospital service, in which smallpox was transmitted at the beginning of the eruption. From these facts he draws the conclusion that variola may transmit itself on the first or at least the second day of the eruption, since the smallpox patient admitted by mistake in the hospital was transferred two days after the appearance of the eruption. This is, however, not the opinion commonly admitted. An English physician of great celebrity, Herberden, following the citation of Dezateux and Valentine, asserted that he was in possession of facts demonstrating that smallpox could not be communicated until after the second or third day of the eruption, and that persons who had never had it might, up to this period, sleep with those who had it without risk of taking it.—*Bul. de l'Academie de Médecine.*

146. TARTAR Emetic Vaccination.—In the *Journal of the American Medical Association* DR. C. PROEGLER reports a series of vaccinations made just after the close of the Franco-Prussian war on an emigrant ship on which he was surgeon. In reporting the matter he says, "the steerage was good and comfortable, food and water through our long tedious journey excellent. On the seventh day out I was notified that an old man was sick, and on examining him I found that he had small-pox. I separated him and the family, two grown daughters, from the rest of the

passengers and began to disinfect the ship thoroughly with carbolic acid, sulphur and juniper berries, the latter more for the smell than anything else. The infected man was 67 years old, and died within three days. The daughters had small-pox rather severely, but survived. His clothes and every thing pertaining to them were thrown overboard ; the girls' clothing was steamed in a special oven. These three cases were the only ones which occurred on our ship. When the passengers heard of it there was quite a panic among them, but after I told them that all possible precautions would be taken by me to prevent the spread of the disease, they quieted down. I began now to inspect every passenger, including the crew, and found that about one hundred of the passengers were not vaccinated. There was no virus on board, and recollecting of having read somewhere about the identity of the pustules of tartar emetic and small-pox pustules, I resolved to try a few inoculations with tartar emetic.

I inoculated myself first, and having been re-vaccinated when fourteen years old, I could not find any difference between the two. From myself I inoculated some babies, and saw that the course was nearly identical with true vaccination ; the pustules could not be distinguished from real vaccination pustules. It must be remembered that during our services in the Prussian army we had an extended opportunity to see small-pox (especially among the French), so that I am well aware of what I write. I inoculated all the passengers and had the satisfaction that every vaccination took. Our journey, on account of contrary winds, was a tedious and long one, lasting sixty days, though time passed swiftly enough for me. When we landed in New York I reported to the Assistant Health Officer of the port, the late Dr. Mather, of Albany, the incumbent, Dr. Cochran, then being sick. We got, without any trouble, a permit to land. I am perfectly convinced that by the combined care and cleanliness, I extracted from the passengers, and the re-vaccination (or the *morale* of it ?) succeeded in staying the ravages of the disease, which might have been very fatal in such a crowded ship as ours.

147. A MIXTURE for Whooping Cough.—A contributor to *Un. Med.* prescribes the following formula :

Tincture of belladonna.....	5 drachms
Tincture of valerian, }	each, 75 grains.
Tincture of digitalis, }	

For a child two years old, begin with five drops daily ; increase the amount by five drops each day until it reaches thirty drops. The initial dose and the increment are ten and fifteen drops, respectively, for children between two and five years old and for patients who are still older. If the valerian is not well borne, tincture of musk may be used instead. When nervous and spasmodic symptoms predominate, the author resorts to chloroform

giving to children between two and five years old from six to thirty drops daily, in two ounces of gum julep.

148. WHOOPING-COUGH.—A serious epidemic of whooping-cough has run through the islands of the Fiji group. The malady has carried off all the very young native children, and left a decrease in the population of 3,000. A few years ago 30,000 persons in Fiji died from an epidemic of measles.

149. COCAINE in Whooping Cough.—M. BARBILLON gives in *la Revue des Maladies des l' Enfant* the result of M. le Dr. Labric's treatment of whooping cough by painting the isthmus of the fauces, the pharynx, etc., with a five per cent solution of cocaine chlorhydrate. That a hyperexcitability of these parts is an element in the causation of the paroxysms is shown by the fact that examining the fauces or compressing the trachea with the thumb in the substernal groove suffices to provoke them.

The application should be made two to four times daily, according to the severity of the paroxysms. The first application almost always provokes a paroxysm which is seldom reproduced in succeeding applications. The immediate notable effect of the treatment is to reduce the number of paroxysms from fifteen or twenty in twenty-four hours to five or ten. Another advantage is the suppression of the vomiting of food, one of the dangers of this disease.

Cocaine has not appeared to affect the appetite as much as might be expected: eating well, sleeping well and coughing less, all the patients have appeared to do well, as to their general condition, under this treatment. In cases where a serious thoracic complication has supervened the medication was suspended for fear of favoring a stasis of the secretions by a suppression of the paroxysms of coughing. This is the only contraindication noted. The duration of the disease does not seem to be notably shortened; but to sum up the effects; the paroxysms of coughing are diminished in a remarkable degree, the vomiting of food is arrested, and the child is enabled to bear more easily the strain of a long and fatiguing disease.

150. CYANOSIS in newly born children caused by Aniline Marking Ink. DR. W. RAYNER, in the *British Med. Journal*.—Early one morning, in July last, the night nurse of the Marylebone Workhouse, on going round the lying-in ward, noticed that that one of the infants looked, as she said, "very blue and queer." The mother with whom the child (a week old) was sleeping, was fast asleep, and the nurse thought the child must have been overlaid; but as the lividity remained, I was sent for.

I found the child apparently just recovering from asphyxia. The lips, gums, and palate were of a wimberry color, and the

whole surface of the body was dusky. The blueness did not, however, decrease, although the child was quite roused and lively. The breathing was quite natural, there was no sickness or diarrhœa, the temperature was normal, and the child had taken the breast well before the mother went to sleep.

On looking round the ward, four other children were found to be affected in the same way, though not to quite so great an extent at first; and during the next three days five more infants were similarly affected. They all took the breast well, and except for color, seemed as bright and healthy as any children under a fortnight old usually are. The cases were not all in the same room, nor on the same story; they lasted about a week, and all recovered. The drainage was fully examined, and found to be in good condition. Then the milk supplied to the mother was inspected, it being thought there might be something to affect the children, though the mothers were quite healthy and unaffected, more especially as it was remarked that the milk served out on the previous day had been much yellower than usual. Consequently inquiries were made at the dairy and farm, but without finding any likely cause, and no other customers had complained of anything of the kind. Next, inquiry was made at Queen Charlotte's Hospital to find out whether they had experienced any like outbreak, but they had not then, or at any time.

Several of my medical neighbors were kind enough to come and see the cases, but could not assign any cause. The epidemic gradually faded out, and there was nothing more of the kind until last December, when again the same kind of epidemic appeared, and this time seven infants were attacked, the mothers, as before, doing perfectly well, and the children only having the breast.

The midwife was asked to very carefully think over what could be in common between the two attacks and unusual during the interval. She could think of nothing except that she had just got a fresh supply of napkins, and fancied she had a new supply in July also, but was not quite sure of this latter fact. As the napkins were made out of old sheeting, this did not seem to help us much; but on examining one of the cyanosed infants, a counterpart of the stamp of the workhouse (a $4\frac{1}{2}$ inch oval) with which the napkins were all stamped was observed on its buttocks and vulva; and although the marking-ink was stated not to be an aniline preparation, it was suspected; and, on being analyzed by Mr. Greenish, of New Street, was found to be a chloride of aniline.

It came out, on inquiry, that the napkins had not been washed after being newly stamped, as they had generally been, before use; and it was observed that the cyanosis gradually died away after the napkins had been washed, and then none of the dye came off.

A fortnight later, all the affected children had recovered or gone out. A freshly stamped napkin was used for a strong healthy infant, and this became cyanosed in less than twenty-four hours.

151. INFANTILE Aphasia.—PROF. BERNHARDT presents his views about infantile aphasia in a little pamphlet (*Deutsche Medizinische Zeitung*), from which we abstract some salient points.

First. Genuine infantile aphasia is not so common an affection as is commonly believed; about ninety cases are all that are recorded.

Second. Its etiological factors are nearly identical with those producing the affection in the adult phases of life, with special consideration, though, of the various characteristics of childhood. The principal causes are reflex conditions after indigestion, entozoa, psychical irritation, infectious diseases, acute and chronic brain affections.

Third. Infantile aphasia is chiefly a symptom of cerebral infantile paralysis.

Fourth. Hemiplegia does not necessarily exist along with aphasia.

Fifth. The affection may disappear spontaneously, especially after prudent and systematic physical exercise.

Sixth. The nature of the cerebral lesion in cases of aphasia existing since birth, is not known, since no autopsies are recorded. The therapeutics of the affection is little effectual; antiphlogistic measures at first, and later the galvanic current, together with the preparations of iodine and bromine, suggest themselves.

152. THERAPY of Diabetes Insipidus.—*Jahrbuch für Kinderheilkunde*.—TUNIN reports as follows: A female child eleven years of age, pale but well nourished, had complained since her second year of increased thirst and the accompanying disturbance in the secretion of urine. In the beginning she drank 9-10 liters of water and passed $\frac{7}{8}$ liters of urine—latter had specific weight of 1001. After the administration of salycilate of sodæ 0.5 three or four times a day, the amount of urine fell to 4 liters. It remained this amount, however, in spite of increased doses. Inf. valerianæ (5.100) diminished the quantity to 2.5 liters. This also ceased to act further, and inf. secalæ cornutu was ordered and the urine fell to 1.1 liters, and remained at this. Specific weight, 1010. During this time the child took on 16 kilo in weight.

153. SUBCUTANEOUS Cold Abscesses in Scrofulous Children in their Relation to Tuberculosis.—GIESLER has an article on this subject in the *Jahrbuch für Kinderheilk.* KOCH's investigations showed that tubercular disease, wherever located, depended for its cause upon the presence of the spore *bacillus tuberculosis*, this being the evidence, when found, of the tuberculous character of the complaint, and its absence equally showing a non-tuberculous character. The same disease is likewise producible in animals by inoculation with cultivations of this spore. It is also affirmed that all inflammations in which the spore is found, or the products of which cause bacillar tubercu-

losis in animals, are equally of a tuberculous nature. The question naturally arose, then, as to whether the tubercle bacillus was to be found in those diseases which resemble tuberculosis, both clinically and as to their pathological anatomy, especially in the case of scrofula, and the results which were obtained varied, some investigators finding tubercle bacilli in all cases, others only occasionally or not at all. In lupus the testimony is unequivocal as to its tuberculous character. In scrofulous eczema no bacilli have been found in almost all reported cases. In the class of cases which is under discussion, namely, subcutaneous cold abscesses in scrofulous children, investigation was first made with the microscope, but after a large number of examinations, with most powerful lenses and very careful search, only a single bacillus was found. Seven cases were then selected, and, with material which was obtained from them, inoculation was practiced upon guinea-pigs and puppies, both by sub-cutaneous and intra-peritoneal application. In all cases only negative results were obtained, and the conclusion was reached that abscesses of this character, of circumscribed development, and developing from granulation tissue, do not depend upon bacillar tuberculosis, although they may contain giant cells and other lymphoid formations, from which it used to be thought that they were of tuberculous origin. They are manifestations of scrofula, but not of tuberculosis.

154. NOCTURNAL Cough of Children.—Dr. G. ALVAREZ, in the *Revue Bibliographique des Sciences Medicales*, thus speaks on the above subject: It not infrequently happens that children are waked suddenly from quiet slumber by a violent and sometimes convulsive cough. This has been ascribed by McCoy to reflex irritation from accumulation of mucus within the nasal cavities. During the day the mucus flows always, but in the night it collects upon the sensitive areas in the nasal fossæ and excites a cough. Gonzalez Alvarez thinks this theory untenable, except in a few rare instances, and attributes the cough to laryngeal irritation. He says that the saliva and buccal mucus accumulate in considerable quantities, especially when there is stomatitis or gingivitis from dentition. Most of this is removed by the acts of deglutition which take place during sleep, but some does not so escape, but trickles into the posterior commissure of the larynx. He states that this cough occurs very frequently during the period of dentition, even when there is no nasal catarrh, a fact which leads him to reject the theory of nasal reflex irritation. The treatment of this nocturnal cough consists in diminishing the secretion by means of chlorate of potassium. A teaspoonfull of a two per cent. solution is given every hour or two hours during the day, and at bedtime.

155. DUAL Diphtheria and Scarlatina.—Dr. LYMAN WATKINS, in the *California Medical Journal*.—The occurrence of scar-

latina and diphtheria, simultaneously, in the same patient is not usual. Scarletinal angina sometimes resembles diphtheria, but careful examination will show the sore throat to be not diphtheritic. Diphtheria is sometimes accompanied by an eruption, which careful examination will show to be not scarlatinal. But there are cases in which there is genuine diphtheria occurring during the progress of scarlet fever. Three such cases recently came under my notice. The first was a girl, five years of age. She had been complaining of sore throat for two days, but was not considered in need of a physician until the morning of the third day, when an eruption appeared and I was called to see her. The eruption was that of scarlatina. Upon examination a well marked diphtheritic membrane was found upon tonsils. The odor of diphtheria was very evident. Under appropriate treatment the diphtheritic exudation disappeared in two days, and the scarlatinal eruption became well marked, as were also the strawberry tongue and reddened fauces of that disease. She progressed well under treatment, desquamation and recovery occurring in due time.

The second case was that of a boy, four years old, in whom the eruption also occurred before I was called. There was no complaint of sore throat, but on examination, diphtheritic patches were found on the fauces. The attack was light, and although the eruption was profuse, the patient was at no time unable to play and take food with relish. The third case was that of a female child, aged two years, and was somewhat more severe than the other two. The child had been taken in the night with vomiting and high fever; the throat was very red, and there was a dusky red appearance of the skin, but no eruption. In the evening of the same day the fever had greatly abated. There was no eruption, but the throat presented diphtheritic patches by the evening of the third day. The pseudo-membrane had disappeared, but there was an increase of the pyrexia, and the eruption of scarlatina was out copiously. This case also recovered after a tedious convalescence complicated with albuminuria.

156. SCARLET Fever from the Cow.—A report has been recently presented to the Marylebone Vestry by MR. A. WYNTER BLYTH, which suggests some important questions upon the origin of scarlet fever; and the facts, when fully elucidated, will be of interest, not only to dairymen and drinkers of milk, but also to pathologists and physicians. The report is as follows:

"The following is a brief epitome of an epidemic of scarlet fever and sore-throat, apparently produced by infected milk. On December 14th, I received a communication from Dr. Hickman, to the effect that there were several cases of scarlet fever in Dorset Square. I at once personally made investigations, and found that the only connecting link between the various households was a common milk-supply. Previously to this sudden outbreak,

there had been remarkably little scarlet fever in the parish. I had, however, on December 9th, caused to be removed to hospital a lad suffering from scarlet fever, one of the milk-carriers at the dairy whence the sick families obtained their milk. The first impression was that this lad had in some way contaminated the milk; but this supposition was speedily excluded, for a number of the cases had occurred several days before the lad was taken ill, and the whole evidence clearly showed that the lad was infected by the milk, and not the milk by the lad. The dairy, which may be conveniently call 'Dairy A,' derived its supply from two sources—namely, sixty-three barn-gallons from a large farm in the parish of Hendon, and a few gallons from Swindon. I telegraphed to the Medical Officer of Health at Swindon for information, and as quickly as possible visited the farm at Hendon. I will at once put the Swindon supply on one side, for it was ascertained that some of the sufferers never had the Swindon milk at all, and the whole evidence subsequently obtained was a negative character, so far as regards this small part of the milk supplied by 'Dairy A.' The Hendon farm is one of the model type, with excellent drainage and water-supply. The milk-produce of the farm was distributed to three retailers, A, B, and C. 'Dairy A' took 63 barn-gallons daily, B (St John's Wood), 20 barn-gallons, and C (Hampstead), 67 barn-gallons daily. All three had the milk from different sheds. At the date of my visit (December 15th), I ascertained, from a personal examination of the milkmen, that there was not, nor had there been, any scarlet fever, sore-throat, or other infectious malady on the farm. In this inquiry, Dr. Cameron, the medical officer of health, gave active and valuable assistance, and visited each of the laborer's families, so as to be certain that true statements had been given. Nevertheless, I was far from satisfied, and still less satisfied when, by a mere chance, I heard a rumor of a family, deriving milk direct from the farm, suffering from scarlet fever. I obtained, with a little trouble, the particulars, which were briefly as follows. Five cases of scarlet fever had occurred almost simultaneously, on or about December 3rd, in a household at Hampstead, no scarlet fever being at that time in the immediate neighborhood. The cause of the attack was to the sufferers a mystery. They had their milk-supply direct from the Hendon farm. Dr. Power afterward elicited the important fact that this milk was derived from the same shed which supplied 'Dairy A.' The evidence on December 17th relative to the infection, in some way or other, of the Hendon milk, was strengthened by other facts, and I felt it my duty to make a strong representation to the proprietor of 'Dairy A,' requesting him, in the public interest and his own, to at once cease retailing the Hendon milk. He did so, and a very instructive event followed. The very milk that would have been delivered in Marylebone was in part thrown away, and in part given to poor people in the neigh-

borhood of the Hendon farm. Within a few days, eight of the families partaking of this milk were struck down with scarlet fever. On the same day on which the milk was stopped, I had all the cans disinfected. They were taken to the stone yard in carts, placed in hot-air chamber, submitted for many hour to a temperature of 250° , and finally washed with hot water and soda, under the careful superintendence of Mr. Phillips. Too much stress can scarcely be laid on the fact, after stopping the supply from Hendon and disinfecting the cans, there was no fresh infection of the customers of this dairy. With regard to 'Dairy B,' deriving milk from the same farm, but from a different shed, I could discover no illness among the customers until December 27th, when in one household a suspicious case occurred, and I then stopped the Hendon supply in this direction also, and had the cans disinfected. Considering that the sudden withdrawal of two outlets for the milk produced at this farm would be likely so far to disturb the existing arrangements that the sound and unsound milk would be mixed together, and, moreover, that it was certainly being distributed in other parishes, I felt it my duty to communicate with the medical officers of health of Hampstead, St. Pancras, and Paddington, and also with the Medical Department of the Local Government Board. Dr. Buchanan, seeing the importance of the epidemic, the more especially as the facts already detailed seemed likely to throw light on the genesis of scarlet fever, at once deputed Dr. Power to investigate the matter. Dr. Power entered on the task with great energy and specially directed his attention to the state of the cows in the different sheds. The result to this examination will be published in due course. I will only say now that certain of cows are 'suspect ;' and that one, the appearance of which was least satisfactory, has been bought, and conveyed to the Brown Institution, and Dr. Klent is making experiments with the milk and other secretions. There have been in the parish, between the dates of December 1st and December 29th, sixty cases of illness having this one thing in common, that the patients had drank milk from one or other of three dairies getting their supply from Hendon. During the whole month, there have only been three cases of scarlet fever in which the connection with one or other of the dairies is not fairly clear. Some of the sufferers have had simple sore-throat, others a slight attack of scarlet fever ; a few have had a severe attack ; in one case (Dairy C), death resulted. Some interesting facts have been ascertained as to the period of incubation, which seems in a few cases to have been very short. For example, a child living in the parish of Paddington came to see an uncle near Dorset Square, had some of the milk from Dairy A, and in two days the symptoms appeared. In another case a young gentleman came from a military college where there was no scarlet fever, drank some of the milk unboiled, and on the third day sickened with a mild attack of scarlet

fever. Those who drank no milk save that which had been boiled were not attacked, and most of those who merely took a little milk in tea or coffee escaped. Children taking considerable quantities of luke warm or unboiled milk, and adults drinking raw milk, form the bulk of cases. Several instances of infection from the cream occurred, and I have reason to believe that the disease-influence was in a more concentrated form in the cream than in the milk. This report is necessarily incomplete; for the full history will not be known until Dr. Power publishes his report, and gives the details relative to the cases in the parishes of Hendon and Hampstead, infected either directly from the farm or indirectly through 'Dairy C'; together with the result of the examination of the cows and Dr. Klein's experiment. I believe that we are on the eve of some very important discovery as to the origin of scarlet fever—*British Medical Journal*.

157. DISEASES of Infants Born Before Time—DR. MUELLER, of Moscow, found infants born before maturity are more liable to disease than full born ones; they lose more heat, because the surface of their bodies is larger in proportion to their weight, and because their fat is far less developed. Their temperature may fall to 30° C. and may be artificially raised to 35°. Acute diseases may therefore run a febrile course, e. g., pneumonia croupose without fever and cough, in consequence of which it might be mistaken for atelectasis, on account of the similarity of the physical manifestations. Sepsis may also run a febrile and remain unknown, as a yellowish complexion is frequent in infancy, and apathy and somnolency are always observed in poorly developed children. In consequence of the diminished faculty of the blood to coagulate, hemorrhages from the umbilicus and stomach are witnessed and the lungs collapse easily in consequence of the non-development of the thoracic walls. This and the nearly impossible expectoration of foreign bodies (mucus, amniotic fluid water,) may give rise to pneumonia. All vital processes are slower, the infants fail to nurse vigorously and show a tendency to enteritis and constipation. In consequence of the low temperature, the deficiency in the functions of the heart and respiratory organs, infarcts of uric acid are found in the kidneys, which may give rise to nephritis. Cutaneous processes run a slow course, hence the frequency of sclerosis, where the temperature may fall to 22° C. and the pulse to 40. The nervous system is not yet fully formed, reflex activity weak, the brain retarded in its anatomical forms, (its mass like a jelly, the ventricles very large, etc.) The loss of the weight during the first days may amount to 6¼%. Mortality in foundlings' hospitals is larger than in private practice and mostly during the first days of their life. Infants of less weight than 1,000 gr. and of 27 cm. length, where the circumference of the head is less than 25 cm. and only 2½ cm. more than

the circumference of the chest, succumb as a rule. It is ominous, when the temperature can not be brought above 35° , when the umbilical cord takes a long time to fall off, when at the end of the first week the weight does not surpass the original one, and when thrush keeps spreading. If they reached their third week and begin to nurse, they thrive rapidly and gain in weight, though they remain for some time yet less developed than full born children. —*Centralbl. f. Gynæcol. Dec. '85.*

158. TETANUS in New-Born Infants.—*Dr. Salzmann. Med. Neuilk.*—A hale and hearty woman of quite temperament was confined June, 1883, with a healthy boy baby, who nursed lustily on a full breast. On the fifth day after birth the child screamed the whole day, refused the breast, and in the evening trismus set in. The cord was still attached and was of a foul odor. On the six day tetanus set in with hoarseness and it died during the night. June, 1884, another child was born, the mother having enjoyed good health during the interval and passing through an easy confinement, and the infant thrived on a full breast. The cord fell off on the fourth day, the umbilicus was nicely granulating, but the little girl screamed much that day. On the fifth day trismus and tetanus set in and death the same night. The same midwife had put her to bed and in her large practice did not see another case. Shortly before the birth of the second child, on account of the theory of infection, the vagina was well washed out with carbolic water and entirely new linen used for the baby. May, 1885, the lady was confined in another house, antiseptic was fully carried out and this time the baby remained well. Heim relates a similar case which he ascribed to draughts. If caused by infection, the poison must either have developed itself in loco or, if carried there, remained for a long time without showing its virulence.

159. NASAL Blenorrhœa in New-Born Infants.—*DR. ZIEM.*—Several years ago, Weber, of London, expressed the opinion that nasal suppuration may be acquired by the entrance of pus in the nose of the infant during labor when the mother suffers from vaginal blenorrhœa. Even when suffocating attacks or bronchitis are observed by the attending physician, the cause is often not recognized, and even in post-mortems of infants, the nasal cavity is hardly ever examined. We ought never to neglect this examination when we meet in babes or infants a suppuration of the middle ear. Ziem observed in several cases a vaginal blenorrhœa of the mother in infantile suppuration of the nose, when during the birth of the child, probably by aspiration, vaginal mucus entered the nose of the child, producing there a purulent inflammation which spread therefrom to the middle ear. Wendt found in the tympanic cavity of new-born babes charac-

teristic substances coming from the amniotic fluid or from the maternal sexual organs, as lanugo, vernix caseosa, meconium and vaginal mucus (Gerhardt, *Kinderkrankheiten*, ii, 84) which only through the nose and tuba could have entered the ear, though we do not find in all cases a simultaneous blenorrhœa of the conjunctiva. Several observations hint to the point, that also fetid nasal blenorrhœa, the so-called ozæna, may originate in an infection of the nose during labor. Thus he treated a girl of eight years, suffering from exquisite ozæna, where the foul odor was already observed when she was six months old, and where the nasal bones were free from all disease and where no syphilis could be detected. Further observations must teach us whether in such cases the vaginal secreta possessed already this foul odor or what is more probable, whether the fetor arises from the deposition of purulent secreta into recesses of the nasal mucous membrane, where it decomposes. How easily purulent secreta in children become putrid, we see in suppuration of the ear, existing only for a few weeks and in cases where osseous affections are positively excluded.

It is certainly more scientific and safer to look for the cause of a simple or putrid suppurative process in the nose, than to call it merely a cold or a congenital affection. A leucorrhœa during pregnancy ought never to be neglected, so that an infection of the mucous membranes of the nose and ear may be prevented, for they are more difficult to treat than the blenorrhœa of the conjunctiva. A prophylactic cauterization of the nasal mucous membrane is more difficult than a cauterization of the conjunctiva, as recommended by Credé—*Allg. Med. Centr. Zeit.*

160. CROUPOUS Pneumonia. Extract from a Thesis on Animal Heat in Disease by DR. C. R. ILLINGWORTH in the *Medical Press and Circular*.—In this disease there is no septic infection at work as a cause. We have simply to deal with a *stasis* of the blood in the pulmonary capillaries, due to increase of the fibrinous elements of that fluid.

What is required, in proceeding upon the theory I have formulated, is a medicine to render the blood more fluid, so that firstly, the acutely congested central organs may be relieved by a more perfect peripheral circulation, and secondly, the local stasis obviated, if possible, before extensive effusion of plastic lymph through the over-laden and vitally-prostrated capillaries has taken place with its consequent coagulation in the air cells, and consolidation of the affected portion in red hepatisation.

I prescribe salicylate of soda, with the aromatic spirits of ammonia. With these remedies I frequently cured acute congestions of the lungs in six or eight hours, particularly if the case be one of a young child.

161. HYOSCYAMINE in Chorea. In a clinical lecture recently delivered by Dr. J. M. DA COSTA, and reported in the *Phila. Med. Times*, the following extract appears—The subject is a boy about 11 years of age. He has always been pale and weakly, and his friends, when he was brought here, said that he was always a very nervous child. Four weeks before the date when he was admitted (on the 14th of last month) he had an attack of acute rheumatism, which involved all the larger joints of his body. The rheumatism lasted about three weeks, but as it declined choreic symptoms began to be manifested. His hands and arms were first affected, and afterward his legs.

When admitted, he was actually unable to walk; he was even unable to feed himself; in truth, the poor boy seemed in risk of starvation. He was wretchedly weak and emaciated. He could perform no coördinated movements with his arms or legs, and unless there was always somebody about to give him a drink of water and food he would have perished. This was not due to actual want of power in the muscles, but to the impossibility of performing any voluntary act requiring coördinated movements; yet when food was placed in his mouth deglutition was readily accomplished. When he came here he could not speak, he could not articulate a word. He could not put out his tongue, although he could open his mouth and move his jaws, but he could not ask for food. His expression was that of an imbecile, and he was reduced to a mere shadow.

When I first saw him his arms and legs were constantly moving, both sides being equally affected. No power of grasp existed in his hands, though sensation did not seem impaired. He complained of pain when he was pinched. The patellar reflex was normal, and not exaggerated. No marked change in the electrical reactions was observed. His pupils were very much dilated; his pulse was only fifty per minute, and rather weak; there was a systolic mitral murmur heard at the apex. These are the main points in the case; but allow me to mention one or two more, so as to bring the case fairly before you as he was, before seeing him as he is. These involuntary muscular movements did not continue at night, when he was asleep. His urine had been examined, but neither albumen nor sugar was detected. His bowels tend to constipation. We detected the mitral murmur shortly after admission.

Here was a case of unusually violent chorea. There was a general loss of power, from want of control over the muscular movements.

The ordinary remedies for chorea act slowly; arsenic, though one of the best of our therapeutic agents for this disorder, acts slowly. I then recalled a case of tremor which I had seen rapidly influenced by hyoscyamine, the active principle of hyoscyamus

niger. I ordered him to take one-two-hundredth of a grain, to begin with, a decided dose for a boy of his age; but not finding any marked influence, I concluded that it would be advisable to increase the dose to the one-hundredth of a grain, given three times a days. Now the effect was admirable. From the first few days the boy began to improve, and at this time he had some dryness of the throat and wanted his mouth frequently moistened. He soon became brighter in his mind; he took more interest in what was going on; he moved voluntarily in bed, and tried to help himself to food. His voice also returned, and he left his bed and began walking around the ward. After this, his recovery was rapid and uninterrupted. He has had no other treatment than the hyoscyamine, and he has now so much improved, though he is still somewhat pale, that he may be looked upon as having recovered. He is sitting quietly; he has power over his hands, both in co-ordination and in grasp, although his grasp is still a little feeble. He walks and stands now without falling. His pupils are dilated, although not much.

The systolic apex murmur persists; it is a chronic mitral regurgitant murmur. In every other respect the boy is nearly well.

In the first place, this attack of chorea was clearly of rheumatic origin. It came on at the end of an attack acute rheumatism. It is true that the boy was previously feeble and ill nourished, and that he was regarded as a nervous child; but the association of chorea with rheumatism is too close a one for us to regard it here as a mere coincidence. You can generally trace, in a case of chorea, a strong rheumatic element, either inherited or acquired. In this form, before the patient has left his bed, or his attack of rheumatism is clearly over, the chorea is manifested, which makes the connection still closer. Now, it has been thought that there is an embolic process at work in the smaller blood vessels of the motor centers in the brain and spinal cord; small vegetations which are formed upon the valves are washed into the arteries supplying the motor tracts, especially the corpora striata, and the subsequent disturbance of nutrition give rise to the irregular, unco-ordinated muscular movements. This is a plausible and ingenious theory; yet I cannot think that it is sufficient to account for all the features of the disease. There must be some want of stability of the motor centers, independent of the coarse lesions resulting from embolism, the evidence of the existence of which, moreover, is not complete, and which is certainly not constant.

You noticed the extraordinary extent to which the manifestations of chorea have been carried in this case. He had no voluntary control over his muscles, and at the same time his mind seemed to suffer; he was almost an idiot. When admitted, his temperature was $98\frac{1}{4}^{\circ}$; therefore the attack of rheumatism was over, and these symptoms were not due to a fresh outburst of the

rheumatic affection. The want of power in these muscles must also be taken into consideration, as showing a close relation between chorea and paralysis.

Now, coming to the question of treatment, the influence of the hyoscyamine, which was suggested by analogy from the treatment of tremor, was here strikingly manifest. I have told you that the dose was increased from one two-hundredth of a grain to one-hundredth of a grain without any bad effects; but when he was taking this quantity he complained of some dryness of the throat, although it never was so severe as to require us to reduce the dose again. On the 21st of last month, the daily amount was reduced to two granules instead of three. It was finally discontinued two days ago. Now he is perfectly steady and can control his movements; his tongue is clean and he has a good color; he is gaining flesh; indeed, he may be considered as well.

What shall be given further? Will not the condition remain? Not necessarily; for all the irregular muscular movements have ceased. He can take, however, for his anæmia, the elixir of the pyrophosphate of iron, a drachm three times a day, and stop the hyoscyamine, as having accomplished its purpose.

162. INTUBATION of the Glottis for Membranous Laryngitis.—DR. E. F. INGALS, in the *Journal of Am. Med. Ass.*—We are indebted to the ingenuity and persistence of Dr. Joseph O'Dwyer, of New York, for the instruments with which this operation is performed, and for the first practical use of this novel procedure, though several before him have experimented in the same direction.

It is too early to judge of the actual merits of this operation by the results in the few cases published, but they clearly demonstrate its practicability and no small degree of usefulness. I believe that for children under $3\frac{1}{2}$ years of age it is preferable in nearly all all cases to tracheotomy, but for older children the tubes thus far furnished are not large enough to admit a sufficient quantity of air, and therefore in severe cases life may often be lost when a timely tracheotomy would have been successful; but notwithstanding these objections, the ready consent to this operation where tracheotomy would not be allowed, the ease with which the tubes may be introduced, and the freedom from danger in the operation itself, render this procedure, as it seems to me, a most important advance in the treatment of diphtheritic laryngitis and membranous croup. Often parents would not consent to having the child "cut," as they express it, who would at once assent to this method. Often there circumstances which induce or compel the physician to defer tracheotomy until it is too late, in which cases, if this were employed, several hours might be gained, and then, if necessary, tracheotomy might be performed.

The ease with which the operation may be done will prompt its

early adoption, and thus carbonic acid poisoning may often be avoided, and doubtless the extension of the disease thereby materially lessened. Again, many who might well hesitate to attempt tracheotomy need not hesitate to introduce one of these tubes; for with a knowledge of anatomy which all physicians are supposed to possess, and with reasonable care not to exercise too much force and to use due dispatch, no possible harm can come. What though the tube were introduced several times into the œsophagus, it could be easily withdrawn by the attached thread, and it might finally be lodged in its proper place. There appears to be very little danger of the tube slipping through the glottis, and even if it should it is so long (reaching, as it does, to within half an inch of the bifurcation of the trachea), that there would be no special danger from it, and if it could not be removed *per os*, it might readily be extracted after tracheotomy.

Dr. O'Dwyer's set of instruments contain a gag, five laryngeal tubes, an applicator, extractor, and a gauge. The gag for keeping the mouth open is all that is needed for very young children, but it does not open quite wide enough for children over three or four years of age. There are five laryngeal tubes, which range in length from $1\frac{3}{4}$ to $2\frac{1}{2}$ inches. Each tube has at its upper extremity an eye for the silk thread used when it is being introduced. There are jointed obturators which fit each of these tubes and hold them while being introduced. They are jointed in order that they may be more readily withdrawn when the tube is in the larynx. The rounded lower extremity of the obturator is of a size and shape to perfectly close the opening in the tube, and prevent injury to the soft tissues during its introduction. Its upper extremity has a small hole, into which the applicator is screwed when the instrument is ready for use. The stem of this instrument is covered by a sliding tube which, when the laryngeal tube has been inserted, may be crowded forward by the thumbpiece to release the obturator so that it may be withdrawn, and leave the tube in position. The instrument for removing the tube is constructed on the principle of a dilator. In using it the closed blades are passed into the end of the tube; the lever is then pressed down by the forefinger when the opening blades impinge so firmly against the sides of the tube that it is held securely. This has been found more convenient than the forceps which were first employed, and it has the additional advantage that it cannot injure the soft tissues. The gauge is designed to determine the size of the tube to be used in a child of any given age.

In performing the operation the child should be wrapped in a sheet or shawl, which will pinion the arms, and then held upright in the nurse's lap. An assistant holds the child's head. The gag is then introduced between the jaws, far back on the left side of the mouth, and opened as wide as need be, but not with great

force. The physician, sitting in front of the patient, passes his left index finger over the base of the tongue and down behind the epiglottis, and with it guides the end of the tube into the glottis.

Dr. O'Dwyer recommends that the handle of the applicator be held near the child's sternum until the end of the tube has reached the pharyngeal wall; but I think it will usually be found more convenient to hold it to one side. The end of the tube having reached the pharyngeal wall, it is directed downwards and forwards along the index finger into the larynx. This will not be found difficult, but the infant's epiglottis is so small and flaccid that the operator may not be able always to recognize it, though he will have no difficulty in detecting the larynx as a whole, which, except that it is slightly irregular, feels much like the end of one's little finger. The operator should not expect to detect the opening of the glottis, but must be guided by his anatomical knowledge to pass the tube into the center of the larynx. Unless he is careful to carry the handle of his instrument high and thus bring the tube as far forward toward the base of the tongue as possible, the tube will be passed into the œsophagus. While it is desirable to accomplish this portion of the operation as quickly as possible, it should not be done with too great haste. Ten or twenty seconds, which is a long time for this portion of the operation, may be taken without danger. If the tube is not then introduced it should be removed for a minute or two to allow the child to breathe, and then the operation may be repeated; but if the tube seems to be in the proper position, whether the operator is certain of it or not, the slide should be crowded forward so as to disengage the obturator, which is then withdrawn. Some cough will occur at once, and if the tube has not been inserted into the larynx, or if it has not been passed down so that the rim rests on the vocal cords, it is likely to be expelled and may be seen or felt in the back part of the mouth. If the tube has been properly inserted respiration will become easier in a few minutes. The operator then cuts one end of the silk thread, passes his finger behind the epiglottis, and holds the tube while the thread is withdrawn. Subsequently, if the tube be of sufficient size, the child may be expected to breathe easily, unless there be extension of the disease.

There is little probability that the tube will become stopped by the secretions, but if the breathing again becomes obstructed, the tube must be removed and examined. Unfortunately, the tube is sometimes expelled by violent cough; and in cases which the physician can not closely watch lives may be lost by this method which could have been saved by tracheotomy.

The tube may remain in the larynx as long as necessary to secure perfect respiration, as it causes little if any irritation. There are few cases of membranous croup in which the glottis will be free in less than four or five days, and it is not uncommon for the obstruction to remain ten or twelve days. Therefore, if

no unfavorable symptoms arise, I would advise that the tube be left four or five days before removal ; then if dyspnœa supervenes, it must be re-introduced, and it may have to remain ten or twelve days. No anæsthetics will be needed for the introduction of the tube, but one will occasionally be required for its removal.

Looking at the intubation of the glottis from our present standpoint, it seems well adapted for the following cases :

First. For diphtheritic and croupous stenosis of the larynx occurring in children under $3\frac{1}{2}$ years of age.

Second. For cases of these same affections in older children in which from any cause the physician wishes to defer the operation of tracheotomy.

Third. For those cases in which consent to tracheotomy can not be obtained.

Fourth. For those cases in which proper nursing could not be secured.

Fifth. For severe cases of spasmodic croup in children less than 10 years of age.

Sixth. For simple stenosis of the larynx, not diphtheritic, in children.

Seventh. With proper sized tubes it might be of value in the treatment of various forms of laryngeal stenosis in adults.

I have no hesitation in saying that Dr. O'Dwyer's instruments for this operation are far preferable to any of the numerous instruments for rapid tracheotomy. I can see no good reason why the tubes for older children may not be made much larger than they now are, and if this be practicable the greatest objection to this operation will be removed ; however, there will be cases in which the tube may be coughed out, and in which, if the physician leaves the patient, the child may strangle before he can be found to return the tube. In such cases the physician would sometimes be culpable for not having done tracheotomy, and thus insured an opening for respiration.

The ease with which this method can be carried out will doubtless secure its adoption in a large number of cases in which tracheotomy would not be advised, and thus it may be the direct cause of saving many lives. On the other hand, we must not forget that these very features are a source of danger, leading the physician to rely on this method in cases in which nothing less than tracheotomy could be of any avail, and thus many lives may be lost. I believe, however, that the method will do much more good than harm, and that within a few years it will find its proper place among the agencies for relieving suffering and prolonging human life. Even now I have such confidence in the operation that I think every community should have a set of these or similar instruments in the hands of some physician who has the good judgment to know when to use it.

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Gynaecology.

163. OVARIOTOMY. An extract from an article in the *Medical Press and Circular*. By DR. LOMBE ATTHILL.—I propose in the following paper to detail briefly the particulars of a case I have recently operated on, and which was in some respects interesting, then to refer to one or two others, which possess points worthy of notice, and finally to discuss some matters connected with the subject which are not yet settled.

The tumor, which was of the size of the foetal head at full term, was very firm, and indeed, so hard did it feel, that a doubt arose in my mind as to whether it could be a uterine fibroid, the resemblance to which was increased by the existence on its surface of a well-marked nodule, the size of an egg. The tumor was, however, very freely movable, and could be easily separated from the uterus, which lay behind it, and which was of normal size. Menstruation had been for some time scanty and irregular, this fact, coupled with the extreme mobility of the uterus, and the small size of that organ, induced me to decide that the tumor was ovarian, possibly a dermoid one, and I anticipated very little trouble in removing it. But on this point, as the sequel proved, I was much mistaken ; it proved a most troublesome operation.

I put the patient under the influence of chloroform a few days previously to enable me to ascertain the exact relations of the uterus to the tumor, and she bore it so well, that I decided on using that anæsthetic during the operation ; but on this occasion the greatest difficulty was experienced in producing perfect anæsthesia. The moment the knife was used she moved, so we substituted ether for it, and though very freely given, she was never absolutely insensible for more than a few seconds at a time; she would every now and then hold in her breath and force the diaphragm down, the result being that, as the tumor was not in actual contact with the abdominal wall, the intestines were forced out

through the opening, and I had to enlarge it greatly before they could be returned and kept *in situ* by means of a large sponge held over them.

The next difficulty encountered was altogether unexpected, and one I had never previously heard of. I was aware that the tumor was solid, and had resolved not to attempt to tap it or to lessen it.

Accordingly, as soon as it was fully exposed, I seized it with a strong vulsellum, but on attempting to draw it forward it proved to be of so soft a structure that the claws of the instrument tore through it as though a mass of dough or putty. Cyst forceps did no better, and I was compelled to pass my left hand into the abdomen from above the tumor, to insinuate the fingers between it and the brim posteriorly, and so with great difficulty tilted it upwards; quite twenty minutes were expended in this seemingly easy matter. And be it remembered that there were no adhesions, but the tumor fitted the brim so accurately and it was so firmly impacted, probably from atmospheric pressure, that great difficulty was experienced in getting the fingers down between it and the brim, while little or no help could be given in front. Here there was a tumor which before the operation seemed so hard that the possibility of its being a pedunculated fibroid presented itself, and yet in fact, was so soft and friable that no form of vulsellum could retain a hold of it. I should have mentioned that its upper surface was coated with a soft, curdy substance, which seemed to be unorganized lymph, and that there was a considerable quantity of semi-purulent fluid in the abdomen. The nodule which was felt on its surface proved to be a cyst full of clear fluid; this ruptured and was destroyed during the process of extraction.

The tumor was subsequently examined by Mr. Bewley. He reports that it is a sarcoma of the class commonly termed "recurrent", and but rarely met with in the ovary. It is composed mainly of small spindle-shaped cells, lying in fibrous tissue; in some parts it is nearly altogether composed of these cells; in others a larger proportion of fibrous tissue exists. Its softness was due to the very large proportion of cellular structure present. The tumor, when at last drawn forward, was found to be attached by a tolerably long and broad pedicle. The structure of this, too, was very soft; it was ligatured in sections, but even so, several vessels had to be separately tied, and there was some troublesome hæmorrhage.

After the usual precautions of thoroughly cleansing the abdomen, the wound was closed, and though the operation in all occupied two full hours, the patient's condition at its termination was very satisfactory. The pulse was good, as was also the color of the face.

In the afternoon she complained of pain, and begged for opium, of which she had taken a good deal during the attack of perito-

nitis from which she had only recently recovered, but being convinced that patients do better without it, I refused at first to give any. At ten p.m. the pulse was only 105, and the temperature 99.5 deg., but she was sleepless, restless, and complained so much of pain that I reluctantly gave her half a grain of morphia hypodermically. After this she slept for a couple of hours, and had a quiet night. In the morning neither the pulse nor temperature had risen, but she vomited a little dark-colored fluid, and in the evening was so restless that I repeated the hypodermic injection of morphia, but it produced no sleep. She had a restless night, and next morning was troubled with the incessant regurgitant vomiting. This I suspected was due to the morphia, for her pulse was but 85, and temperature absolutely normal. I forbade her taking any thing by the mouth except a little ice, and as she complained of being weak, ordered 2 oz. beef tea and $\frac{1}{2}$ oz. brandy to be administered by the rectum every three hours. In the afternoon the vomiting ceased, and before the end of the week she was absolutely convalescent.

Two curious circumstances occurred during the course of her recovery—one, that at about twenty-four hours after the operation, a pretty copious oozing of blood occurred from the wound, which I suspected must have come from the pedicle, it soon ceased; and as the pulse was good and quiet, and her condition, in all other respects, satisfactory I did nothing for it. The second was that, on the seventh day after the operation, serum oozed from the wound in such large quantities as to render it necessary to change the bed clothes. Previous to this the wound seemed to have united perfectly, but during its occurrence I could by pressing on the abdominal walls laterally, force out the serum through a very small opening near its center, this closed the day following.

This case, in which recovery took place so rapidly, contrasts strongly with that of the lady on whom I operated some years ago, and in whom vomiting continued almost incessantly for more than a fortnight, and which only was restrained for a few hours at a time by the hypodermic injection of morphia; during all this time she was fed *per rectum*. There was enormous distension of the abdomen, and the bowels did not move for twenty-one days. This patient ultimately recovered perfectly, all these distressing symptoms having been due to enteritic inflammation, the cause of which I never was able to ascertain, but she was in very bad health prior to the operation which was undertaken as a last resource.

This patient, as already stated, was fed for many days *per rectum*, $1\frac{1}{2}$ oz. beef tea and $\frac{1}{4}$ oz. brandy having been injected through a large catheter every third or fourth hour. This proved amply sufficient to sustain life for a fortnight; on two or three occasions I administered enematas containing other substances, such as milk, beaten-up egg, etc., but they invariably caused dis-

comfort, and after a few hours were expelled nearly unaltered in character, while the beef tea and brandy were always retained and absorbed.

A curious and, as far as I am aware, unique sequence occurred in one of my cases, I think this was the forty-sixth in my operations. The patient was a delicate woman, the operation was an easy one, and all went on well, save that there was always a little oozing of some purulent fluid from the low edge of the wound and that the temperature kept up above the normal standard; her convalescence was consequently tedious finally, I sent her to the country, though there was still a little discharge from the wound. Quite two months after the operation, she came to me in a state of much alarm, stating that "a worm had come out through the wound," and that she had brought it to me in a bottle. On examination this proved to be the ligature, which instead of having become imbedded as we suppose is usually the case, had separated and been discharged through the fistulous opening in the wound, which, after this had occurred, closed rapidly. This lady has since given birth to a child.

Just a year ago, I read a paper giving the details of a very interesting case I had operated on, but at that time the patient had not recovered perfectly; I am now in a position to give some additional particulars. The operation was undertaken when she was almost *in extremis*, the temperature in the morning on which it was performed, was 103° , the diagnosis of a suppurating cyst had been made, which the operation verified. The tumor was bound down by dense adhesions to the pelvic walls laterally and posteriorly, and in separating these I opened a large pelvic abscess, the existence of which had not been suspected, and indeed could not have been detected. The abdomen was soon full of foetid pus and blood; after this had been sponged out, I poured into the pelvis a quantity of carbolic lotion, and sponged it out again. Subsequently, for many days I injected carbolic lotion into the abdominal cavity through a drainage tube, and sucked it out with a syringe. On the fifteenth day after the operation a fistulous opening formed in the rectum, and fæces was discharged through the wound, the lesser end of which was still open. This continued for months. On the 29th July, seven months from date of operation, she menstruated normally, save that she suffered a good deal of pain, and has since done so regularly; but on the 25th October its appearance was preceded by intense pain, felt all over the abdomen, which terminated in a copious discharge of blood through the wound, though previous to this the fistulous opening had apparently closed. This lady is now enjoying good health, menstruates normally, and does not suffer from any difficulty in defæcation.

There are many matters bearing on the details of the operation of ovariectomy and abdominal section generally, still

unsettled, prominently that of the use of antiseptics. We find Sir Spencer Wells, Mr. Knowsley Thornton, and others, continuing to carry out Listerism in all its details with the most satisfactory results, on the other hand Mr. Lawson Tait scoffs at it, and by the careful use of pure water obtains as good results, while Mr. Keith, once an enthusiastic upholder of the system, abandons it after having for years carried it out with most satisfactory results, and still obtaining marvelous success without the aid of any antiseptic. Such facts must shake the faith of the most devoted follower of Lister as to the absolute necessity of his system, but they do not necessarily in any degree prove the fallacy of his theory; they prove, to my mind, that the use of the spray is unnecessary; that, by the strictest attention to cleanliness in every detail, antiseptics may be dispensed with, but they do not prove that it is wise to do so. Admit that with the greatest possible care no particle of septic matter remains on any instrument, or in any sponge, or material used for ligature, suture, or dressing, it does not follow that we do not add greatly to the certainty of obtaining absolute safety for our patient by immersing our instruments, sponges, etc., in a disinfecting fluid. Years ago, when the spray was in general use, I pointed out that the cold it produced on the exposed intestines and peritoneum was very objectionable, and ceased allowing it to play directly on the patient. I believe now that it is best not used at all during the operation, and that it should be discontinued at its commencement; but I continue to wash my sponges and keep my instruments, ligatures, etc., lying in an antiseptic fluid. I carefully wash all my instruments, prior to the operation in the same, and keep my sponges, after being thoroughly washed, in cold water, lying for at least twelve hours in a solution of perchloride of mercury. But all these precautions are useless if the principles on which they are founded be forgotten during the performance of the operation, and yet they often are. I have been present at an operation in which the room was full of carbolic spray, all the instruments lying in deep trays full of carbolic lotion, but have seen the patient covered with a blanket so soiled that it must have recently been taken off some not over cleanly bed, and on this I have seen the surgeon repeatedly lay his knife, clips, torsion forceps, in fact every instrument he used, one after the other, to be taken up and used again, oblivious that thereby he was rendering nugatory all his previous precautions. The use of antiseptics becomes in the hands of such a man not alone a delusion but an actually injurious practise, and one calculated, most unjustly, to bring the system into disrepute.

With respect to sponges, I use only a small number, and these I make use of over and over again. I find ten small and three large flat ones, as a rule, all that are needed. If you have a large number in use they are apt to be mislaid. I have seen the abdo-

men searched all over at the end of the operation for a sponge which had rolled unnoticed into a corner of the room, where, if only a limited number had been used one if dropped would have been missed at once. But I always have two in reserve to replace any which, from having dropped on the floor, or from any other cause may be deemed unfit for further use. The operation being over I wash the sponges in pure water thoroughly; and then leave them soaking for twenty-four hours in a solution of the perchloride of mercury, of the strength of $\frac{1}{1000}$, squeeze them out of this, and dry them thoroughly, and they again go through the same process before being used.

In many cases I find it better not to use the trocar at all. If the tumor consists of one large cyst full of fluid it is often satisfactory to empty it through Sir Spencer Wells' trocar; but if it be multilocular nothing is gained by the use of the trocar; it is best to have the sides of the abdomen compressed by an assistant so as to bring the tumor well into the opening in the abdominal wall, and to make an incision into it, by this proceeding trouble is saved, and the tumor emptied much more rapidly and satisfactorily.

The after treatment really should consist, as far as possible, in doing nothing. Absolute rest and the administration of nothing but ice for at least twenty-four hours should be all that is needed. Indeed, in general, it is better not to give any thing but ice for two days. Of course the occurrence of severe pain or great restlessness may compel us to administer morphia hypodermically or per rectum, but those patients from whom it can be withheld do best; in the patient whose case I narrated at the commencement of this paper, the troublesome vomiting from which she suffered on her second day was due, I am satisfied, to the morphia which she insisted on having; but if vomiting sets in after the operation, and the use of ice fails to stop it, an hypodermic injection of one-third or one-half grain of morphia often acts like a charm.

On one other point there is some difference of opinion, namely, as to the size of the incision. I have always followed the example set by Sir Spencer Wells, and made as large an opening in the abdominal wall as would enable me to see what I was doing, holding that the size of the incision does not affect the chance of recovery. Of course it should not be larger than necessary; but I hold that it is not wise to force a semi-solid tumor through a small opening, and still more so not to leave space sufficient to enable you to see clearly any bleeding point. Mr. Lawson Tait, on the other hand, insists strongly that the incision should be as small as possible, and that a large one tends to favor the formation of a hernia. I can not agree in this. I have now been watching cases for fifteen years, several of these have had children, and others have large pendulous abdomens, but in not one have I seen a hernia to form through the line of the incision, and the fear of

its occurrence will never deter me from making one sufficiently large for the object I have in view.

In this city the actual cautery is seldom used for the division of the pedicle. Still, in many cases, it is the most satisfactory method of treating it. If the pedicle be a thin one, I do not think there is any risk in using the cautery in place of the ligature. Mr. Thomas Keith has used it extensively, and, as well as I can remember, had secondary hæmorrhage on only one occasion, and we all know that hæmorrhage from the pedicle, after the use of the ligature, sometimes occurs. In the case of a soft unhealthy vascular pedicle, such as in the case I have related at the commencement of this paper, the actual cautery would, I think, have been safer than the ligature; but in a thick pedicle, with large vessels in it, I should certainly prefer the ligature. The case I alluded to a few moments ago, in which the ligature separated, acted as a foreign body, and eventually came away through the abdominal wound, shows that, if possible, it is an advantage to omit the use of any ligature, except, indeed, those made of catgut, and I think in time the cautery will be more frequently used than at present.

164. PELVIC Hæmatocele.—DR. FRANCIS IMLACH, in an article contributed to the *British Medical Journal*, says, Among the more important contributions to the year's gynæcological work, the series of articles upon uterine hæmatocele, published by Bernutz in the *Archives de Tocologie et des Maladies des Femmes*, ought certainly to be included. It was in 1848 that he began to write upon this subject, and at first he took a somewhat narrow view of the etiology of the disease, and certainly an untenable one, ascribing the majority of cases to menstrual retention from such congenital malformation as absence of the vagina or atresia of the cervix uteri. But, though he has quoted cases illustrative of the occurrence of pelvic hæmatocele where the vagina was absent or the cervix preternaturally narrow, it is now admitted by himself and every one that this association is rare. While he has abandoned the theory of menstrual retention, he rightly maintains the importance of the distinction which he long ago pointed out between effusion of blood within the pelvic peritoneum and without it. He restricts the term hæmatocele to the former, and describes effusion of blood into the subperitoneal cellular tissue as thrombus. The frequency with which the term suppurating hæmatocele is employed, shows the confusion which has arisen from neglect of this distinction. Pelvic hæmatoceles do not suppurate until they have been punctured by the surgeon. It is possible that, by their pressure, perforation of intestine, or of a pelvic viscus, may ultimately take place; but when pus pours out, or is withdrawn by tapping, from the vagina of a patient in whom hæmatocele has been diagnosed, my belief is not refuted, for the

diagnosis may have been mistaken. When laparotomy has been performed, there can be no such mistake; and I have not yet met with a case of suppurating hæmatocele.

Dieulafoy (*Gazette de Médecine*), in like manner, has combated the opinion that hæmorrhagic pleurisy ever becomes purulent. "Les pleurésies franchement hémorrhagiques ne deviennent pas des pleurésies purulentes, elles restent hémorrhagiques pendant toute la durée de leur évolution." In pelvic thrombus, on the other hand, the blood is always, according to my experience, mixed with pus; and I have never read a case where pure blood had been aspirated, in which I was satisfied with the diagnosis of cellular thrombus. Between abscess in the pelvic cellular tissue and thrombus, there is no line of demarcation; the pus may contain only a few shreds of fibrinous clot, the foetid blood may contain only a trace of pus, or blood and pus may be in about equal quantities.

As regards the gross pathology of pelvic hæmatocele, Bernutz's experience has been gathered chiefly from *post mortem* examinations, a method of study which must be peculiarly liable to mislead, owing to the extensive changes likely to occur in this disease during the throes of death. He refuses to consider uterine or circum-uterine hæmatocele as a special malady, though he admits it to be a pathological entity. But if we follow him in excluding hæmorrhages into the pelvis from sudden rupture of organs or blood-vessels, I do not know any disease which has more characteristic marks, or deviates less in its pathology and symptoms. He contends also that, unless the blood in the abdominal or pelvic cavity be encysted, the term hæmatocele should be withheld, there being, strictly speaking, no blood-tumor, and it should be called only an internal hæmorrhage. To this contention, however, I think no surgeon will consent. The peritoneal reaction against blood is feeble; women may have their abdominal cavities half full of blood for years without its becoming encysted; and when there is a cyst-wall, it is of the softest and most yielding consistence, and is probably broken up whenever there is a fresh effusion of blood. A thick-walled cyst, with a new membrane, such as occurs where pus has escaped into the peritoneum without causing general peritonitis, is only found when the blood has become foetid. Whether encysted or free in the abdominal cavity, if the blood have long accumulated and evidently proceed either from the ovaries or the tubes, there is only one disease with one history; and, as similar treatment is required, the benefit of setting up two names is not apparent. But, when the internal hæmorrhage has been due to the rupture of a tube in extra-uterine pregnancy, there is no advantage in classing this hæmorrhage with pelvic hæmatocele, though in many respects the conditions are similar. A more common mistake, it appears to me, consists in calling all pelvic hæmatoceles cases of tubal pregnancy with rup-

ture ; and no case ought to be admitted as tubal pregnancy unless a foetus be found. It is quite true that the foetus may have become disintegrated, or may have escaped into the abdominal cavity or uterus ; but such disintegration or escape must not be imagined in every case. Judging from my experience in fifteen cases of hæmatocele, I would say that, in general, both Fallopian tubes are greatly distended with thick black blood, and that a large soft clot, which has evidently been discharged from an ovarian hæmatocyst, or an obvious corpus luteum, half an inch or more in diameter, which has become loosened, is grasped by the pavilion. When the tube is cut open, its mucous membrane is black and succulent, and often half an inch thick, and its muscular coat is also hypertrophied. In the ovaries, there are generally one or more large blood-cysts, but sometimes they have ruptured before operation, and only their loose collapsed walls remain. In other cases, the cysts containing fluid blood are small and numerous, and the chief pathological changes are in the tubes, which are invariably distended and diseased. The blood in the abdominal cavity may rise higher than the navel, or may be only in the pelvic cavity. It is exactly like what is found in the tubes ; when thick oval gritty masses of black fibrin are felt in the tubes, there are similar thick masses in the pelvis, and the tubal mass may project into the pelvic cavity ; when the tubal blood is fluid, it is also fluid as it is bailed out of the peritoneum ; and when it is foetid in one locality, it is foetid in the other.

There can be little doubt, therefore, as to the source of the hæmorrhage, but it is a question whether this includes the whole of the pathology. When normal blood is injected into the peritoneal cavity of a healthy animal, and when it oozes into the abdomen from separated adhesions, after laparotomy, it is gradually absorbed. What remains to be explained is, why the blood in pelvic hæmatocele is not absorbed as fast as it is poured out. Early writers ascribed hæmatocele to sweating of blood from the pelvic peritoneum, the disease being thought a form of purpura hæmorrhagica, and the absence of absorption excited no surprise ; but evidence of the purpuric state was never forthcoming, and this theory was finally rejected. Virchow has suggested that the initial stage is pelvi-peritonitis, with formation of a velvety new membrane from the easily ruptured vessels, from which blood escapes during menstrual congestion ; and his name and fame have caused this theory to become widely accepted. It may be true that absorption fails because chronic peritonitis is set up ; but that the hæmorrhage is due to this so-called pachy-pelvi-peritonitis, as Friedreich, Besnier and Bernutz maintain, is amply disproved by the fact that, once tubes and ovaries have been removed, internal hæmorrhage never recurs, though menstruation eventually becomes re-established. And, further, this pachy-pelvi-peritonitis is only

another name for encystment of the hæmorrhage, a condition which is often absent.

That some absorption takes place, is shown by the constant elevation of temperature and pulse when the blood is fœtid, and by the fact that the abdominal dullness on percussion varies slightly from week to week. The simplest explanation is, that the lymphatics of the peritoneum gradually become choked; and those who have seen the density and toughness of the fibrinous masses, almost as hard as brickbats, that collect within the abdominal cavity, will not wonder that life is too short for their complete absorption. Whether the disease commences in hyperæmia of the ovaries, as Récamier and Nèlaton believed, or whether the discharge of pathological blood-cysts and loosened corpora lutea is secondary to hyperæmia of the tubes, it is not easy to determine; but certainly the changes in the gland and its duct include the whole of the pathology. I have several times, on account of prolonged menstrual trouble, removed tubes that were dilated with blood, and ovaries in which were small blood-cysts, where there was no hæmorrhagic effusion into the peritoneum; and such cases may fairly be described as in the preliminary stage of pelvic hæmatocele; but I have never seen the primary pachy-peritonitis, which has been assumed by Bernutz as a cause of the disease.

It is difficult to estimate the frequency of pelvic hæmatocele. Bernutz says that sometimes he met with not more than two cases, and often with none at all, in the course of a year's service at La Pitié and La Charité. Some years ago, on the other hand, a metropolitan gynæcologist, fired with the importance of the subject, announced to an astonished though learned society, that he had met with fifty cases within a few months; he had verified none of them by abdominal section, and there can be little doubt that he had confused many varieties of pelvic disease. Seeing as I do, in the special hospital of a large sea-port town, a very considerable proportion of the poor population who are supposed to have some disease of the womb, I do not find pelvic hæmatocele to be a common ailment. Its chief symptoms are prolonged metrorrhagia, backache and profound anæmia. When a woman comes with a tale that her courses last from two to nine or ten weeks, and I find an obscurely fluctuating mass, or two such masses, behind the uterus, I suspect pelvic hæmatocele; and if there be dullness as well as pain on percussion above the pubes, the diagnosis is strengthened. If her menstrual period have previously been missed once, twice, or thrice, tubal pregnancy is possible; and if there be a mass distinctly on one side only of the uterus, and the breasts have contained milk, the diagnosis is almost complete. When there is a history of long continued pain, I always advise operation; for I do not expect to succeed with medical treatment when others have failed. If the temperature be high, from 100°

to 104° Fahr., one may be pretty confident that the blood is foetid, and that the need of operation is urgent ; but in such cases the diagnosis between a small hæmatocele and pyosalpinx is not easy. To mistake hæmatocele for pelvic cellulitis is a common error ; but, never having seen retro-uterine cellulitis, I do not believe in its existence. Aspiration *per vaginam* is not only useless, but dangerous, owing to the risk of sepsis. If the needle chance to enter one tube, it misses the other, and the abdominal cavity ; if it enter the abdominal cavity, it misses both tubes ; and, even if all the dense clots could be withdrawn, the cure would be only temporary. Opening the abdominal cavity, and draining the accumulated blood, is open to like objections, and I am surprised to find this method adopted. The only treatment by which a cure of the disease can be insured is laparotomy, with removal of the uterine appendages.

165. MEMBRANOUS Dysmenorrhœa, the treatment of.—The treatment of this affection is necessarily both palliative and curative. While the patient is suffering during the expulsion of the membrane, it is very necessary to relieve the pain as far as possible. This, of course, can be most promptly done by the use of opium, which should be avoided, if possible, however, because of its after-effects.

Chloral hydrate answers fairly well in some cases. I am not sure that it has any advantages over chloroform, camphor and belladonna, or conium and *Cannabis indica* ; in fact in the majority of cases, one has an opportunity to try several agents, and, of course, the patient will decide which gives most relief. Indications for general treatment are to quiet all nervous disturbance and to improve the general nutrition of the mucous membrane. It so happens that when the first part is attended to the latter will follow in due order.

To quiet the nervous irritation and disturbance there is nothing that equals the bromide of sodium. This should be given in twenty or thirty-grain doses, three times a day, for ten days or two weeks before the menstrual period. And, if the pain is not severe enough to require the addition of some of the remedies already named to relieve pain, it may be continued throughout the menstrual period and several days after. From this it would appear that the bromide is to be used continuously ; but one or two weeks in each month it can be omitted. When the bromide has been employed for some time, and it seems desirable to give it up, conium may be given in moderate doses combined with camphor, if the patient is weak. If there is any evidence of the rheumatic diathesis, the bromide of lithium should be given. Next to quieting the nervous system, any debility that may exist should be overcome by nerve tonics. Undue nervous excitation so often goes hand in hand with nervous depression that in many

cases it is necessary to combine the tonic and sedative treatment.

After subduing all nervous disturbances, I give the patient the iodide of sodium in case she is in fair strength and inclined to flesh. If there is anæmia, I prefer the iodide of iron. If these did not accomplish the object, I have employed mercury, giving in small doses, never continued long enough to produce salivation, carefully watching to avoid this. In cases of anæmia where I have feared the debilitating effect of this alternative, I have given the bi-chloride of mercury with iron. After keeping them upon this treatment until I could see some evidence of its effect, I have then put them upon iodine and arsenic.

In regard to local treatment, I have employed alternatives and sedatives almost exclusively. Of these I have found iodoform most effectual. I have so used iodine and mercury with advantage. In cases where I have found any complications I have carefully attended to them, restoring displacements and correcting flexions, and so on. When the canal of the cervix has been at all constricted I have enlarged it by incision and dilatation.

When the congestion which occurs at the menstrual period does not subside in a few days, I have employed the warm-water douche. After this, I have applied to the cavity of the uterus small bougies of cocoa-butter with as much iodoform as it would take up. Three or four grains of iodoform mixed with vaseline that has been liquefied by heat, and introduced through the pipette, is perhaps the best method of applying it. These have been introduced once a week or once every five days. When there has been much tenderness, and the use of the pencils has caused pain, I formerly used aconite and opium and iodine; this I have introduced into the cavity of the uterus. I am now trying cocaine to subdue the tenderness as a preparatory means to the use of iodoform. But so far this new remedy has not been a perfect success.

In cases where this has failed and the uterus was not especially sensitive to intra-uterine medication, I have instilled into the uterine cavity a few drops of a five-per-cent solution of carbolic acid, making one application a few days after the menstrual flow and not repeating it until the next period. In the interval I have used the iodoform. I have also used the fluid extract of conium and *Hydrastis canadensis*; but this I have found gives more pain than any of the other applications that I have used and so of late I have used an infusion of the hydrastis (prepared by the Wm. S. Merrell Chemical Co., Cincinnati) alone, which appears to answer as well and gives less pain.—*Canada Med. Record.*

166. OVARIAN Dermoid Cyst, with a Report of a Case.
(Read before Elkhart, Ind., Medical Society, February 9th, 1886)

by J. B. GREENE, M. D.)—The subject of dermoid cyst is one of no less interest to the general practitioner than to the specialist, and, I might add, of as great mystery in its cause as perhaps any other pathological condition.

The name dermoid is not a satisfactory one, for by it we are prone to look upon cysts of the ovary, and cysts of other parts of the body, that are of the dermoid type, as one and the same in character and cause. That there is any difference in the character of those found in the body of the male and those found growing in the female, I am not prepared to say, neither can I assert positively, that a dermoid of the orbit is different in general character to dermoid of the ovary. Though it seems to me that there is a great difference, and while, because of its long use, I would not discard the name dermoid, I would prefix thereto the word ovarian, where the cyst is (of the ovary).

To write upon the cause of cyst of the character under consideration, a country practitioner can, from his limited field of pathological research, do little more than theorize or quote from authors; and it seems strange to me that so little is said upon the subject in question by any of the writers, I have been able to consult, still my article will consist largely of quotations from the books.

¹ Henry Trentholm Butlin says "dermoid cysts are almost * * always congenital," and after speaking of those of the eye, he mentions those found under the tongue as well as those of the ovary, scrotum, testicles, brain and lungs, and from his peculiar phraseology, I think he implies that there is a difference in the character of those dermoids found in different localities.

That these cases are "almost always" congenital, particularly the ovarian, I think can be abundantly proven by the great number of cases found in very young children, in fact in mere infants, but I do not believe that they are always congenital. Why they may be almost always, but not invariably congenital, is a question that will have to be answered by pointing out causes or possible causes.

² Waldemyer "conjectures that each ovarian epithelial cell may become an ovular cell, each ovular cell may produce all cellular characters of division." ³ "Whether dermoid cysts (of ovary) are due to *abnormal* inclusion of the epiblast, *i. e.*, are developmental in their origin. (I here use the term epiblast as an *abnormal* development of a fecundated (twin) ovum in the uterus of the mother of the subject of dermoid), or are a freak of the ovum developed in the patient herself, would make no difference in the congeniality of the cyst, unless, as argued by some, there is never an ovum developed until menstruation, from ten to fourteen years after birth. I am inclined to believe that an ovum may develop, and often does develop, in infantile life, ay, even in intra-uterine life. "The abnormality may be in the ovum of the individual bearing

the tumor, or in the ovum *from* which the individual was developed," but there is nothing to prove the inclusion of an epiblast, as I here use the term, nor of a *normal* fecundated ovum, saving as a "symmetrical development," as instanced in the Siamese twins, Millie Christie, the North Carolina twins, and other freaks of that character. "There is no reason to doubt that there may be an eccentric and irregular development of the tissues of the foetus during intra-uterine life." May not that "eccentric and irregular" development be due to intra-uterine ovulation of the sufferer from dermoid. Lebert theorizes that "from the elements present spontaneous generation * * * occurs." What are these elements present? Are they not ovular? Dr. Webb "inclines to the belief that the ovum is only an epithelial cell."

A very homely example of the elements present (*i. e.*, an unfecundated germ) may be seen in an undeveloped ear of corn upon an apparently healthy stalk, but that stalk standing alone, far removed from any of its kind, I believe that that blasted ear is a dermoid of its kind, and analagous to our ovarian dermoid, and I firmly believe that : "Dermoid of the ovary is the result of a growth of the ovum itself and that ovum a generation in the individual affected.

The old idea that these cysts are the result of extra-uterine pregnancy is in no wise, to my mind, tenable, the course of extra-uterine pregnancy is very different from the course of dermoid cyst. The former is rapid in its growth, the latter slow. The former ruptures its sac and discharges its contents within a few months (generally weeks) after discovery. The latter may rupture and discharge in the same way, but not for a very long time after discovery—usually years. The former always has a placenta, the latter never. The former has always the (externally) fully developed foetus, the latter never more than parts of a foetus. The former never has any teeth, the latter usually have a number of teeth.

We have some animals that are 'hermaphrodite,' *i. e.* : "The germ-producing and fecundating power is conferred upon the same individual ;" but is there in that power the cause of *reproduction* of species or merely a *continuation* of their own individual life, the "Production of the zoospore which is effected without the conjunction of two cells" is found in animal life "only in the dermoid cyst of the ovary : " "The zoospore and the female part of the zyoospore are essentially the same ; * * * the properties introduced by the sperm cell seems rather to be an extension of those functions already existing than the creation of new ones." Any ovarian cyst is : " "Certainly no longer an ovary, but a tissue heterologue, * * * commencing perhaps as a Graafian cell which, instead of bursting, continues to fill," and dermoid cysts are, I think, the result of such Graafian cells containing the germ of an ovum that continues to an imperfect development.

To sum up, then, I will say that I think dermoids of the ovary are not only often congenital, but may develop at any period of ovular life; they are not remains of extra-uterine pregnancies, nor are they the result of inclusion of a fecundated ovum of the mother of the individual in whom the dermoid is found, *i. e.*, they are not a result of an inclusion of an imperfectly developed twin of the subject, but are a result of imperfect cell (ovular) development of the person herself.

I am aware that the question may be asked: "although you may deem a dermoid of the ovary different from that of the orbit, brain or lungs, where do you place those of the testicles, for the testicles of the male and the ovaries of the female are analogous?" I answer that from the very analogy I would call them one and the same; one an imperfect or one-sided ovular growth, the other an imperfect or one-sided spermatozoid growth, and as to those in other parts of the body, I would consider them as abnormal developments of epithelial cells.

According to Spencer Wells, this class of tumors is found only or chiefly in fair complexioned women.

I find many cases recorded of dermoid cyst removed. A great number of them were removed post-mortem, and I find the record of but one as large as the specimen I have with me. The size of a small orange is as large as they have averaged.

The result of dermoid cyst of ovary left to itself is usually death; the sac may rupture and discharge its contents externally, and the patient may recover, but they are far more liable to discharge their contents into the abdominal cavity, and thus cause death. The diagnosis of dermoid is easier made after the contents of the cyst has been brought to view than before. Valpeaux diagnosed one before operation, in 1840, and gained a great reputation thereby, but from what data he drew his conclusions I am unable to state. If the tumor has been noticed from early childhood, or the patient is under the age of puberty, you may be reasonably sure that you have a dermoid to deal with; or if you can feel the edges of bone, or hard substance in the tumor, through the abdominal walls, you may expect to find on removal of the tumor a dermoid.

The treatment of ovarian dermoid differs in no manner from that of other ovarian cysts, and is purely surgical. The operation of ovariectomy is so well known that I will pass it by.

CASE.—During the last week of December, 1885, I was invited by Dr. Louis Barth, of Grand Rapids, Mich., to see a patient of his—Nora L., a domestic, aged 31 years, of fair complexion, Nullipara, native of Prussia. Her parents had first noticed the increase in her size when she was but 5 years of age. After eliciting a rather full history of the case, and making as thorough an examination as possible, and finding on the left side of the tumor a hard, uneven substance, which could be felt through the

abdominal parietes, I diagnosed a cyst of the ovary, and in my opinion a dermoid. Dr. Barth had made a similar diagnosis from the same premises. We laid the case plainly before the patient, and suggested the removal of the growth by abdominal section. To this the patient agreed, and at 8 A. M., Jan'y 3d, 1886, we proceeded to operate. I use the pronoun "we," because the operation was done by us jointly, and to neither belongs the exclusive honor of the operation. Dr. W. Wood administered the anæsthetic, and carefully watched its effects. After cutting through the linea alba and peritoneum, we found extensive adhesions which were broken up, and the cyst brought as far into the incision as possible. The tumor was then tapped with the trocar, but the contents were so thick that they would not flow through the canula. We thereupon cut through the walls of the sac, and evacuated a great quantity of a sebaceous substance, much resembling meconium, in which were great numbers of tufts of hair, short, and of a dirty brown color. After the semi-solid contents were evacuated, the cyst was, with some difficulty, owing to the size of its solid contents, brought through the abdominal wound, the pedicle ligated with iron dyed silk after the manner of Tait, (Staffordshire knot), the tumor cut loose, and the pedicle dropped back into the abdomen; the toilet made very carefully and thoroughly, the wound brought together with deep interrupted sutures of silk, the bandage applied, and the patient returned to her bed; rubber bottles of hot water placed under the spinal column, and bottles of hot water placed around about her person. In a few minutes the patient recovered from the effect of the anæsthetic. The time from the beginning of the administration of the chloroform until the patient was fully conscious, after the operation, was fifty minutes.

The tumor, with all of its contents, weighed 40 pounds. The sac and solid contents weighs 12 pounds.

Upon opening and examining the cyst we found an os ilium, a part of a sacrum, and the remains of a foetal head, the different parts as large, as you can see, as the same parts of a full term foetus. The bones are, you will observe, covered with flesh, that to the eye resembles striated muscular fiber; the inferior maxillary bone is very perfect, even the foramen menti being shown. The occipital bone is nearly as perfect, the foramen magnum and the post condyloid foramen showing perfectly; the superior maxillary bone is perhaps not so perfect, but still its shape can be easily made out. In it there is an incisor tooth. A molar tooth can be plainly seen growing from the surface of the ilium; the cerebrum and cerebellum can be distinguished, and a few hairs can be seen growing therefrom. From one side of the head there is a growth that resembles a penis and scrotum; if it be a penis and scrotum, it will be of interest in the discussion of the question: "Is the sex of the child of the ovum or of the spermatozoid?"

The peculiar position in which the head lies in its relation to the ilium and walls of the sac, and its attachments thereto, make it difficult to describe the condition of other cranial bones. I do not care at this time to destroy the relative position of the parts, nor to break the adhesions, but you can see that the parts described have not been overdone in the description.

The patient did as well as could be expected, having but few bad symptoms. On the 15th of January she sat up in a chair; abdominal wound healed, and stitches all removed. March 16th, 1886, I heard from the patient. She was then perfectly well, and attending to her duties—that of a domestic.

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- 10-11. Tait, " " Ovaries.
12. Meigs, " " Women.

167. PESSARIES. *In the Edinburgh Medical Journal, we find* by DR. MACLAREN, the following notes anent pessaries :—The possession of the specimen which I show has induced me to lay before you some very decided opinions I have on the subject of pessaries. It was obtained from a woman, aged 73. Thirteen years ago she suffered from prolapsus uteri, for which she consulted a doctor. He introduced the instrument before you. A month afterward his attendance ceased. For eleven years the pessary caused little trouble, but she then began to suffer from vaginal discharge, vulval irritation, and a much impaired state of general health, without being able to state any definite ailment. I first saw her six months ago, and she told me the above story. An examination ascertained that the vagina was packed full of a gritty, putty-like substance, having a horribly adipocercous odor, in the center of which was the pessary. With some trouble I removed the instrument. I was not able to reach the os with my finger, and her feeble condition precluded much interference. She was feverish and ill for some time, and then gradually pulled together. She is now in fair health, but very frail. I have not felt justified in making another vaginal examination, and the uterus has not again come down. I have no doubt that the pessary was made of gum-elastic, and was pear-shaped. It can still be made out that the covering is a textile material, and that it is filled with tow.

This is the fourth instance that has come under my notice in which a pessary has been abandoned and left derelict in the vagina. In two of the cases they were wooden ball pessaries, and did no great harm beyond causing some vaginal ulceration. In the other case a mushroom-shaped wooden pessary split, owing, I think, to some crack in the wood which moisture increased. A part of it found its way into the bladder, and was drawn back by the road it went.

I once also operated on a vesico-vaginal fistula, which followed the use of a pessary for prolapse. The instrument had been carefully fitted, and has since been worn with safety, the only difference being that the patient now removes it nightly.

I now, therefore, come to my first note—*Always teach the patient to remove and introduce her pessary, and reject all pessaries which do not allow of this.* I am sure that every useful purpose can be served by an instrument which may be taken out each night and replaced in the morning. I do not very often use pessaries, but still I see sufficient uterine disease to come across most varieties of it. And one of three pessaries meet all my requirements—a watch-spring, a Hodge, or a Zwank. There is no difficulty whatever in getting a patient to use these in the way I have stated. Of course women are teachable in different degrees, and it requires more perseverance with some than others, but I have never ultimately failed. I think I ought to note one possible exception to the above general statement, that is in the use of the intra-uterine stem pessary. As I have no experience of its use, I content myself with the statement, that if it is useful and to be used, the patient can not introduce or remove it.

My second note is—*Always have the pessary made of a material impermeable to moisture.* Soft, pure rubber or vulcanite are the best. Leaving in diluted Cond's fluid over night will make such perfectly clean and odorless. A pessary which is at all absorptive becomes very foul and offensive.

The third note is—*Get your patients to soap all soft rubber pessaries.* Oil spoils the rubber, making it soft and porous.

My fourth and last note is—*Be sure that a pessary is needed.* No doubt pessaries have been used too frequently. There are women who seem to derive much mental and physical comfort from having their vaginal canals turned into marine stores for some variety of curious little instruments and find rest in the assurance of a displaced womb which has been put right. Now, before advising the use of a pessary, we should be sure that there is a mechanical basis for the symptoms which a mechanical remedy will rectify. The fact of a uterus being in some other than the typically normal position is not in itself a reason for using a pessary.

168. OBLIQUE PELVIS, of Naegele, on the production of. DR. HERMAN, in a paper from the Obstetrical Society of

London said: He did not propose to discuss the nature of the disease resulting in this pelvis, but only the reason of the change of shape. He showed by measurements that the disease, whatever its nature, produced dwarfing of the sacrum, and destruction of part of the ilium on the affected side. He did not think that the explanation of the pelvis put forward by Dr. Matthew Duncan, namely, that it was the result of ankylosis of the sacro-iliac joint was adequate. There were three main forces which produced the shape of the pelvis; 1, The body-weight; 2, The action of muscles and ligaments; 3, The innate tendency of the bones in their growth to assume a particular shape. The action of muscles and ligaments he believed to be far less effective in modifying the shape of the pelvis than the body-weight; the most powerful force he believed to be the tendency of the bones to grow into their proper shape, in spite of mechanical influences. In the Naegele pelvis, the bones retained this power; and that was an essential difference between the Naegele pelvis and pelvis, such as the rickety and osteomalacic, in which the bones were rendered by diseases abnormally flexible. The Naegele pelvis was one of the simplest of all pelvic deformities, because in it there was little to deal with except altered distribution of the body-weight. This was carried by the iliac beams on to the femora at angles differing on the two sides. The author believed that, as had been shown by Dr. Champneys, the effect of the pressure of the femora was to carry the acetabula upward and outward. He adduced, in support of this view, the evidence of experiments, which showed that, when the femora were pushed upward in a parallel direction, the pubic bones were divaricated; and that of pelvis wasted from disuse of one side, in which the acetabulum on the side on which the unopposed pressure of one femur was exerted, was carried upward and outward. The shape of the Naegele pelvis, he believed, was due to the differences in the effect of this pressure on the two sides. The outward pressure was exerted to greater advantage on the sound side; therefore the acetabulum was, on this side, carried outward, and the symphysis pubis dragged over to that side. The iliac portion of the pelvic brim was less compressed on the sound side of the Naegele pelvis than in the healthy pelvis, owing to the pressure of the femur being less directly upward. The author adduced measurements in support of these assertions. According to his view, the lessened breadth of the sacrum and the iliac bone on the ankylosed side was the essential change, not the ankylosis. In support of this view, he cited cases in which oblique deformity resulted from atrophy of the sacrum without ankylosis; and also cases in which, with ankylosis and oblique deformity, the degree of obliquity was proportionate to the breadth of the sacrum. Lastly, he showed that the shape of the transversely contracted pelvis of Robert was explicable on his view.—Dr. GALABIN said that the action of the body-weight on the posterior sacro-

iliac ligaments, exercising force on the iliac beam, and tending to evert its lower extremity, would be abolished if the joint were ankylosed. The body-weight and the pressure of the femora must act vertically ; but besides this there was an inward pressure of the femora, and a corresponding outward pressure of the pelvis upon the femora due to muscles. The outward thrust of the lower end of the iliac beam could not be subjected to the parallelogram of forces as the author had done. The important point was the relative length of the arms into which the sacral beam was divided by the incidence of the body-weight. He thought that the study of certain pelvises showed that, on the whole, inward pressure at the acetabula predominated. He agreed with the author that the obliquity of the Naegele pelvis could be accounted for by other causes than ankylosis, and that the deficiency of the sacral wing was more important. If for any reason the acetabulum and tuber ischia were displaced toward the middle line, the forces causing obliquity acted with constantly increasing force. There was one peculiarity of the shape of the Naegele pelvis which supported strongly Dr. Duncan's theory of the leverage exercised through the posterior sacro-iliac ligaments ; this was the absence of curvature at the posterior end of the innominate line on the affected side. In the scoliotic pelvis, and in the oblique pelvis from disease of one leg, the posterior part of this line was more curved than usual ; in the Naegele pelvis less curved, and this could only be accounted for by the ankylosis preventing the action of the iliac beam on the affected side.

169. EXPLORATION of the Uterine Cavity in Metrorrhagia. ARTHUR W. EDIS, M.D. in the *British Gynaecological Journal*.—In bringing this subject before the attention of this society, it is not with the object of enlightening my fellow gynaecologists, or criticising adversely the practice of my professional brethren, but rather of directing the notice of those who are not in the habit of resorting to this method of treatment to their responsibility—in some cases little less than criminal—and with the hope of encouraging them to a more frequent recourse to what is the only scientific and proper mode of dealing with cases of severe, persistent, or recurrent uterine hæmorrhage.

The subject of persistent uterine hæmorrhage, usually described as metrorrhagia, is at all times one of much interest, and too frequently also one of much anxiety to the practitioner. The causes producing it are so numerous, the difficulties often of forming a correct diagnosis so great, and the consequences, not only to the patient, but also to the practitioner, so serious, that any attempt to classify the causes, simplify the diagnosis, or throw light upon the treatment can not fail to prove of interest to all engaged in the practice of our profession.

A correct diagnosis is the first and most important element of

successful treatment, for until we know the former the latter is mere guess-work, and we are as liable to do harm as good in attempting to repress the hæmorrhage. The principle of diagnosis by exclusion is one that approves itself to many—determining, in fact, to what cause the hæmorrhage is *not* due. This of course, can only be done by knowing beforehand what are the most likely causes of severe hæmorrhage—the *possibilities*, so to speak—and then eliminating one after the other until we have left only two or more *probabilities*.

Speaking generally, there will be almost invariably some local cause detected if hæmorrhage be really severe, although complicating one or other of these conditions, or it may be independently of any of them, the presence of cardiac, hepatic, or renal disorder should always be considered. These, again, may be aggravated by the injudicious employment of alcoholic stimulants, more especially about the time of the menopause.

The mere withdrawal of stimulants will often prove of much service in checking the flow, when pharmacopœial agents exert no beneficial influence whatever.

Numerous cases could be instanced exemplifying the truth of this statement. In fact, speaking generally, the less alcohol a patient takes who is suffering from metrorrhagia the better. I have repeatedly witnessed cases where the mere abstention from alcohol has been sufficient to arrest a profuse hæmorrhage which had been going on for many consecutive months, threatening even the patient's existence.

It is very important to bear this fact well in mind, for otherwise patients, by the advice of injudicious friends or at the promptings of their own suggestions, resort to such popular remedies as port wine and brandy with a view of keeping themselves up, when, in reality, they are doing themselves much harm by stimulating the circulation and interfering with the proper action of the liver.

In attempting to form a rational *diagnosis* as to the cause of profuse hæmorrhage in any individual case, it is of extreme importance to get a careful *history* of the case. How long has the hæmorrhage existed? did it come on gradually or suddenly? is it attended by pain? was there any intermission of the regular catamenial period? has the general health differed in any way? is there any mucus or offensive watery discharge between the occurrences of the hæmorrhage?

Before attempting to make any local investigation we should examine carefully the state of the heart, the lungs, the liver; examine the urine to see if there be any evidence of renal mischief; note the appearance of the tongue to see if there be any indication of the abuse of alcohol; inquire into the habits of the patient, whether sedentary or active; and, in fact, ascertain all we can likely to throw light upon the individual case.

Before deciding to explore the cavity of the uterus, it is of

course presumed that a most thorough and careful examination of the pelvic organs has been carried out.

Dilatation of the cervix uteri would clearly be contra-indicated if the history, symptoms, or signs pointed to the possibility or probability of hæmatocele, pyosalpinx, extra-uterine gestation, pregnancy with intense granular degeneration of the cervix, or other similar condition.

By a system of exclusion we must first narrow down the diagnosis to the probability of some intra-uterine complication. But if after a careful consideration of all the facts of the case the presumption is that we have this factor to deal with, then we are not justified in allowing our patient to go on bleeding indefinitely without giving her the benefit of further assistance.

A few words as to the method employed for dilating the cervix uteri. I have tried nearly all the various methods usually resorted to, such as gradual dilatation with laminaria, sponge, or tupelo tents; and more or less rapid distension with Hegar's, Lawson Tait's, or Aveling's dilators. Division of the cervix uteri with the metrotome or scissors, either alone or in conjunction with one or other of the foregoing methods, is that I more generally adopt when the existence of a fibroid is detected. I have never yet met with any ill results, and believe that if gradual dilatation be not unduly prolonged, in any case not beyond twenty-four hours, there is less bruising or injury to the cervix than if the more rapid mode of distension be had recourse to.

If then the cervix be not sufficiently dilated, after careful irrigation with iodised water, the metrotome may safely be employed, care being subsequently taken to render the cut edges callous, so that no absorption of septic matter takes place. It is always well in such cases to irrigate morning and evening with some appropriate antiseptic lotion for some few days following the operation. In cases of persistent hæmorrhage, due to the retention of the placenta following a miscarriage, the cervix generally remains sufficiently patulous, or is so readily dilatable by means of the finger or one or other of the methods of rapid dilatation, that no other means are required to admit of the requisite exploration and removal of the retained products. Where, however, only a small portion of the placenta has been retained, and the case allowed to go on indefinitely for several successive weeks, or even months, the cervix may be found so contracted as to necessitate the introduction of laminaria tents over night. In such cases incision should never be resorted to, this method being reserved exclusively for cases of small fibroids or fibroid polypi in the interior of the uterus.

I am fully aware there are some who discountenance the enucleation of fibroids as being a hazardous method of treatment, and who also are opposed to division of the cervix. In fact, until we have explored the cavity of the uterus, we are not in a position to

form a correct opinion as to what method of treatment should be adopted; and I would lay stress upon the importance of dilating the cervix and exploring the interior of the uterus in all cases where hæmorrhage from the organ persists unnaturally, and where the ordinary medicinal agents fail in affording relief, and there is no evidence of any condition external to the uterus sufficient to explain the persistence of hæmorrhage.

The treatment of persistent uterine hæmorrhage, depending upon the presence of fibroid tumors, would occupy too much time to discuss fully on this occasion.

The medical agents most likely to prove of service are ergot, nux vomica, gallic acid, cannabis indica, hamamelis, digitalis, vinca major, alum, iron in some cases, and other well-known remedies. When these fail to control the hæmorrhage, local treatment should be resorted to. Dilatation or incision of the cervix, swabbing out the interior of the uterus with the liquor ferri perchlor., insufflation with iodoform, injection of carbolic acid, and various other means have been tried and proved successful in some cases.

Failing these, we are driven to the contemplation of more serious operations, such as enucleation, oöphorectomy, or hysterectomy. The choice of operation will depend mainly upon the size and position of the tumor and the age and condition of the patient.

Although instances of a fatal termination from severe hæmorrhage alone are far less common than might be anticipated, still, when we consider the amount of suffering involved by the constant drain upon the system, the deterioration of the general health, the impairment of the digestive functions, and the incapacity of the patient to fulfill her ordinary domestic duties, we are perfectly justified in resorting to operative measures, where other means have been fairly tried, and have failed to afford relief.

Professor Verneuil, in his recent address before the French Association for the Advancement of the Sciences, at Grenoble, threw out some excellent hints on the ethics of surgical practice. He affirmed that: "when the inefficacy of pharmaceutical and hygienic measures has been proved, and a necessity arises for operative procedures, choose always—and this is an inviolable rule—the least dangerous operation. This may in some instances be the boldest, the most radical, and apparently the most destructive."

When a decision has to be made between two or more rival operations, a simple criterion is to put in the first place *efficacy*, in the second *harmlessness*, and in the third *facility*. There is also a second criterion still more valuable, and so simple that it can be applied in a few minutes, without any lengthened experience in practice or extensive learning, and without being acquainted with the procedures in favor at the moment in Vienna, London, or Berlin. I mean the Gospel principle of doing to another what one would have done to one's self or one's own.

Dr. Routh believed the paper of Dr. Edis was eminently practical ; he, however, thought it right to take exception to one or two points :

First, as to the rapid dilatation of the uterine cavity. It did not always succeed, as in cases of rigid uterus, and after all it was not a rapid but a long and tedious process, and complicated, as requiring chloroform ; whereas dilatation by a sea-tangle, with proper precautions, was comparatively easy and safe. But then the tangles as sold in shops were not always safely usable, however smooth and pretty-looking on the surface. First, they were *straight*, and in a bent uterus their introduction was sometimes very difficult. Secondly, we never knew that they had been picked up *pure and fresh*, and, if not, the uterine moisture would set in action any septic matters contained. He therefore always collected his sea-tangles himself, and after having allowed them to soak in a solution of carbolic and iodine for two or three days, he thus purified them, and then let them dry in any shape. Thus he could always (having found the exact uterine shape by the sound) adapt a prepared tangle to the uterus, even if completely flexed, and so in no way force or injure the organ by the introduction of any tent. Nor did he care to give it a smooth exterior. It sufficed to cover it with cotton wool, and to moisten it with carbolic acid or iodine and glycerine, and no injury or poisoning could follow. The uterine cavity was thus ready for exploration, when some of these measures recommended by Dr. Edis could be adopted.

In regard to those cases of metrorrhagia in which nothing could be found after exploration, it should be remembered that ulceration or excoriation of the mucous membrane need not be restricted to the os and external portion of the cervix, but might extend high up the uterine cavity, even to the fundus, as often evidenced by the fundal pain and flow of blood on passage of the sound. Now it was quite in keeping with what occurred in piles ; if the liver were very congested they would bleed and enlarge, and this was true for the mucous cavity of the uterus also. The late Dr. McKenzie had shown that in 75 per cent. of cases of menorrhagia there was *liver enlargement or congestion*. Mere ulceration of the lining membrane, if existing, could very often, like the President's case, be cured by the curette, which removed diseased surfaces, especially if iodine was applied afterward, as it should always be.

The last objection he would take was the absolute necessity, if the os was cut by the knife or hysterotome, not to proceed to operate on the uterine contents till these cuts were healed, or *vice versa*, if you were acting on the uterine contents, not to cut the cervix so long as a dubious discharge came *per uterus* ; as assuredly, unless the most constant use of antiseptics to such wounds was insisted on, and the utmost antiseptic cleanliness enforced, you would poison a patient and have to lament an unfor-

fortunate death. Mr. Baker Brown had himself pointed out this risk, and Dr. Routh's experience was quite in accordance with it. There were few gynæcologists who could say they had not met such cases, and no precautions which could be taken could be too great to avert such a calamity.

170. ELECTRO-Therapeutics in Pelvic Ailments. DR. F. A. WARNER in the *New England Medical Gazette*.—The main action of electricity is tonic. "The influences that aid nutrition, and produce tonic effects, are four: viz., mechanical, physical, chemical, and physiological. Although all enter more or less as factors in bringing about constitutional effects, yet the mechanical and physiological actions are mainly efficacious. Mechanical effects are most marked under faradic currents. Physiological effects are produced by either current, though the galvanic current frequently acts more powerfully here, and especially in exciting the processes of *absorption*. They affect both secretion and excretion." Very interesting effects become apparent when applied in certain pathological conditions. In menorrhagia, instead of increasing the flow, its tendency is to decrease it. In enuresis it acts powerfully, in decreasing the excessive waste; while in suppression of urine, very remarkable results have been obtained. The whole subject of the relation of electricity to nutrition is of immense importance. Persons subjected to general faradization are very apt to increase in weight and size of body. The improved nutrition is manifested also by the increased capacity for intellectual and physical labor. Its action on involuntary muscular fiber is quite different from that on voluntary muscles.

In the latter, contraction takes place immediately on closing the circuit. In the former, movements are not induced until a certain time after the tissues have been acted upon. In the voluntary muscles, all contraction ceases upon the removal of the excitation; while in the involuntary muscles, the excited movements *continue for a long time after* the removal of the current. This peculiar action of electricity upon the involuntary muscles enhances its value in the treatment of pelvic disorders.

One of the most frequent functional complications in pelvic diseases is habitual *constipation*, often leading to pelvic congestion and its sequences. Ovarian irritation and inflammation are frequently induced by this cause.

It is often a prime factor in uterine deviations or displacements, owing to the straining needed to procure defecation. Neglect of very regular defecation is the first step in many cases of constipation. Its influence on the portal circulation is to disturb the harmony of action in the various organs connected with it; and extending this influence outside the portal circle, the action of the heart or brain, or both, is inhibited, and thus the whole being is disturbed.

The most skillful and well-directed treatment of a displaced uterus may be greatly prolonged, or even defeated, in consequence of the ever-recurring constipation. When caused by insufficient motion of the contractile fiber-cells of the intestines, and by loss of the power in the abdominal muscles, electricity has proved itself to be very useful. Faradization of the abdominal muscles will restore their tone ; and, when extended to the intestines, powerful peristaltic movements may be induced, as well as tone be given to the muscular and mucous tissues of the alimentary canal. If the appetite is poor, and digestion weak, general faradization will bring about the most gratifying results. The constant current is valuable for restoring the lost function of the rectum, by a simple device like this : viz., place a piece of zinc in the mouth, and a piece of silver in the rectum, connecting the two with a wire ; the result will be a free movement of the bowels. General or even local treatment for other diseases than constipation often relieves the patient of that trouble. The value of electricity in relieving constipation is certainly very apparent, not only as an independent trouble, but also on account of the relation it bears to other pelvic diseases.

Another functional trouble is *amenorrhœa*. It has received electric treatment, more than any other pelvic disorder, and with such general success, that electricity has been styled "the only true emmenagogue." We may expect it to excite menstruation whenever the uterus is capable of performing that function. A favorable prognosis must be based on the idea that no serious pathological condition exists. General faradization, with a view of changing the constitutional condition, is sufficient, in many cases, to restore the suppressed function.

I have seen good results by applying one electrode to the abdominal parietes, and the other to the lumbar region. "A more profound influence may be produced by applying a cup-shaped electrode to the os, and the other above the pubes, and alternately to the ovaries." While the faradic current is generally used in this functional ailment, the galvanic and static forms have given excellent results.

Under the head of neurotic pelvic ailments, I shall place *dysmenorrhœa*. In considering this disease, we must bear in mind that the uterus is a muscular organ, guarded at its outlet by internal and external sphincters ; that the normal action of the cervix, in menstruation, in orgasm, and in labor, is expansion and retraction, synonymous with contraction of the body ; or, to reverse the statement, contraction of the body is synonymous with retraction and expansion of the cervix. The uterus at this time being very hyperæmic, stasis takes place to a greater or less degree ; the harmonious action of the muscular fibers of the body and cervix is prevented, and we have dysmenorrhœa. Now, we believe that in electricity we have found an agent that is capable of restoring the

functional integrity of the muscular fibers of the uterus, and relieving the stasis.

Whether this is a correct explanation or not, one thing is certain, that the electric current has, in the hands of experienced physicians, given the most brilliant results. Dr. Rockwell gives very emphatic testimony to its efficacy in dysmenorrhœa of the neuralgic form. If, then, most cases are neuralgic or neurotic, the sphere of electricity as a therapeutic agent in dysmenorrhœa is enlarged. As a further testimony, Dr. Rockwell says, "In my own experience, I have observed success follow various methods of treatment with both currents. As a rule, however, the galvanic is far more effective than the faradic. In many cases I have found it useful to alternate the two. While internal applications must frequently be resorted to, yet some of the most striking results have come from simple external applications."

The management of a confirmed case of *irritable uterus* requires of the attendant great care and watchfulness, and a resort to many means for making the patient even comfortable. Conjoined with the indicated treatment, the spine may be faradized twice a week. Should there be any pathological condition of the uterus, such as sub-involution or engorgement, we should govern ourselves accordingly as to the method of using it, and expect much benefit.

The use of electricity in *menorrhagia* is limited. If induced by misplacement, intra-uterine growths, or by some ovarian affection, it would be of doubtful utility. If from constitutional causes, we could only hope to arrest the flow without producing permanent benefit.

When associated with oreolar hyperplasia, or the engorgement following sexual excesses, we may confidently expect permanent benefit.

Ovaralgia of rheumatic origin may be relieved by electricity. In this connection it would be well to remember that daughters of rheumatic fathers are peculiarly liable to ovaralgia.

Since constipation is a frequent factor in causing *ovaritis*, electricity may be used as a preventive agent, and possibly as curative. Ovaritis arising from sub-involution ought certainly to be relieved. Dr. Julia H. Smith says, in cases of chronic ovaritis, rest, massage and electricity are to be commended.

Displacements.—At one time it was expected that the electric current would restore the displaced uterus to its normal position. This hope has not been realized, but electricity has been found to be of great value as an auxiliary. With it pathological conditions have been removed, which, if permitted to remain, would have prevented successful use of the means needed to restore the womb to its normal position. With it we may promote the absorption of the products of inflammation adjacent to the uterus, and which held it away from its proper poise. With it we may preserve the functional integrity of the whole alimentary canal, and thus pro-

mote not only nutrition, but prevent the uterine deviations which are liable to follow straining in defecation. In some instances, the muscular system will need faradization, especially if the patient be practically bedridden.

Professor Delemater, in a recent lecture, remarked: "I believe that more can be accomplished with the electric current, in conjunction with the proper use of tampons, in malpositions of the uterus, not due to organic changes, than is possible with pessaries and other mechanical supports."

Chronic Metritis.—In order the better to understand the influence of faradization or galvanization upon the uterine tissues, let me briefly consider the anatomical structure of the uterus and its appendages, together with the principal pathological condition to which it is liable. The chief bulk of its substance is muscular, the fibers being variously arranged in three layers intimately connected with each other, and pervaded by nucleated connective tissue, as well as blood-vessels, lymphatic vessels, and nerves. The broad ligaments by which the uterus is kept in proper position are a continuation of all these tissues even to the serous exterior and mucous interior. The chief morbid changes which occur in the uterus and its appendages consist of atrophy of the contractile fibers, with effusions, and relative or absolute increase of connective tissue, inhibiting the functional activity of the blood and lymphatic vessels. Scanzoni says: "Its chief anatomical deviation consists of an excessive growth of connective tissue, which is formed by the organization of lymph effused between the muscular fibers of the womb, causing compression or even obliteration of the blood vessels in some parts, and dilatation in others."

Now, the effect of the electric current is to induce contraction of the muscular fibers, and strengthen their tone, promoting at the same time *absorption* of the *effusions*, thus restoring the circulation and checking undue proliferation of tissue. Another writer expresses himself after this manner: "acts by preventing inflammatory stasis, and by producing the *resorption* of leucocytes, and elements migrated into the surrounding tissues, and giving a certain tonic to the tissues."

Several years since Dr. Althaus demonstrated to his own satisfaction the value of faradization in chronic metritis. Every now and then we hear of physicians who have been successful with the galvanic current.

Dr. Ellingwood wrote quite recently in *The Medical Record*: "I have treated four cases of sub-involution with the galvanic current, all of which followed confinement. In those of not more than six or eight weeks' duration, two or three applications generally were sufficient, and the effect was like magic, a satisfactory cure resulting in each case. The last case was one of long standing, the uterine hypertrophy having existed for at least three years. The symptoms were severe in the extreme. Retention of

urine had existed for forty-eight hours ; temperature and pulse exalted, pain and suffering intense. After catheterization, examination revealed a uterus prolapsed, greatly enlarged, and impacted within the pelvic walls. Complete laceration of the cervix, of seven years' standing, existed. I had her assume the genu-pectoral posture, and, after careful and long manipulation, succeeded in replacing the uterus.

"I submitted the patient on alternate days for four or five weeks to a mild galvanic current, the result of which was in every way satisfactory. She refused to submit to an operation for laceration; claiming, after the galvanic treatment, to enjoy better health than for years before."

Pelvic Cellulitis.—There is yet another field to which I must direct your attention ; viz., pelvic cellulitis. Dr. R. Ludlam very recently remarked, "The use of electricity both for assuaging the pain, and promoting the absorption of the tumor or the induration resulting from pelvic cellulitis, is very much relied upon by some experienced physicians." Again, it is well known that as a first step in many pelvic operations it is necessary to remove all inflammations, exudations, or indurations, before it is proper to operate.

That electricity can be made a valuable auxiliary in this preparatory work, I do not doubt.

Fibro-myomas.—"The more conservative method of treating fibro-myomas with electricity is beginning to compare favorably with its bolder rival, the bloody operation. The former method of applying a weak interrupted current * * * is now superseded by the application of an intense current. Great superiority is claimed for this method. Dr. Apostolie, of Paris, records more than one hundred cases, in which recovery was complete. The tumors did not disappear altogether, but they atrophied and shrank away."

Ovarian tumors have been treated by electrolysis, but the results do not compare favorably with ovariectomy.

171. DYSMENORRHEA. DR. W. B. HAWKINS, reported in the *Obstetric Gazette*.—He believes the prime factors in the production of this predisposition were, first, the faulty relation, or a misconception of the proper relation which children and young girls bear to society ; and, secondly, a faulty educational and labor system, both in theory and practise. He regarded it as the exception, rather than the rule, to allow and encourage children of both sexes, but more especially girls, to pass through the period of childhood as nature intended.

Later, the girl was apt to diverge still further from what should be a natural one ; the continued excitement of her artificial environment, together with her educational tasks, soon developed the nervous system at the expense of physical growth, and to the

deterioration of her already enfeebled constitution. When the period of puberty was reached, the other factor, *a total disregard of sex in education*, became active. The second, when added to the first, would almost certainly produce derangement of the menstrual function. The same faulty principle was in operation in business and the trades, the girl in either case being obliged to do her work in a boy's or man's way, and was constantly encouraged to put down and disregard her sex and nature's demands. He believed these considerations constituted the key-note to the nature and etiology of dysmenorrhœa; in other words, it was due, as a rule, to constitutional causes, and, therefore, deserved to be classified as a distinct disease.

He next referred to the views held by authors on the subject, many of whom gave prominence to the theory that dysmenorrhœa was but a system of displacement or deformity of the uterus. Grailly Hewett practically accepted but one theory; the obstructive, and believed stenosis or obstruction due to flexions of the uterus, to be the most common cause of the disease. This very plausible theory had won general acceptance among physicians, particularly on account of the good results from mechanical treatment; but he thought those results could be as readily comprehended upon the theory of nervous influence. Dilatation probably relieved dysmenorrhœa by changing the existing disturbed condition of the sentient nerve, in the same manner as a local neuralgia is relieved by stretching a nerve, or as stretching the anus relieves the pain of, and cures, an anal fissure.

He did not claim that there was no case of obstructive (mechanical) dysmenorrhœa, but it did not follow that the case was one of that sort, merely because it was relieved by dilatation, and quoted Emmet and J. E. Burton in support of this view. It was in pure and uncomplicated cases that the true nature of a disease was best determined. In such cases of dysmenorrhœa, it was probable that the sentient nerves of the endometrium were in a state of hyperæsthesia. This condition was seen reflected in the highly sensitive and impressionable temperament, and was generally accompanied by faulty development of the sexual and generative organs, as well as a deteriorated condition of general health, a penalty too often of a poor inheritance, a forced education, an emotional life and a bad hygiene. In such a case, menstrual pain would be excited by the congestion consequent upon the periodical flushings of the poorly developed sense and resisting tissue with blood. It was not difficult to explain the nature of the disease upon a purely constitutional and neurotic basis, when so many cases were relieved, and even permanently cured, by constitutional and hygienic measures alone. Matthews Duncan, Emmet and Mundé were referred to as supporters of the constitutional, neuralgic and hystero-neurotic theory of the disease; and Dr. C. D. Palmer's paper on "Dysmenorrhœa," pub-

lished in the transactions of the American Gynæcological Society for 1883, was also quoted from in substantiation of the same view.

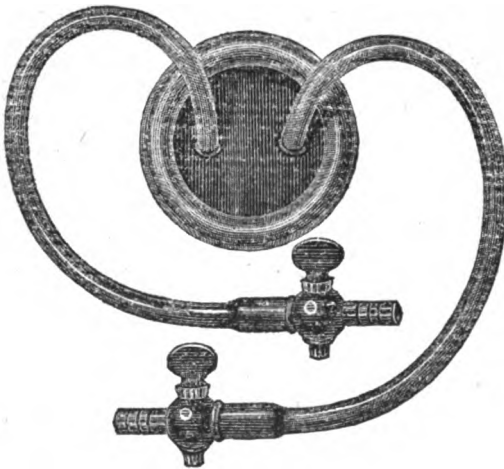
He next called attention to that form of the disease depending upon gouty and rheumatic diathesis, the study of which had been too much neglected, he judged, by the paucity of literature on the subject. A very characteristic symptom of dysmenorrhœa, dependent upon the rheumatic diathesis, was severe vertical headache, which was apt to persist during the inter-menstrual period. The recognition of this fact in a recent case had enabled him to successfully treat it, after it resisted the ordinary methods.

In considering the treatment of dysmenorrhœa, he called attention to the necessity of instructing parents, teachers and others in regard to the part they ought to take in preventing the acquirement of a predisposition to the disease. He regarded the failure to recognize sex, in education and business, as a prime etiological factor in the malady, and urged the importance of instructing the laity in the laws of prevention. Girls should be excused from special mental effort during the menstrual periods, and at all times great care should be exercised in prohibiting *any thing* from the interference with continued growth and perfect physical development. In young and married women, treatment should be purely constitutional for a time, with a view to correct faults in the nervous system, and considerable attention should be paid to personal hygiene. Iron and arsenic were the two most important drugs, singly or combined, with which to aid the general management of these cases, and the former should be given in large doses and continued for a long time. The systematic use of Turkish and Russian baths and massage, he had found excellent adjuvants; and in cases complicated with gouty or rheumatic diathesis, remedies appropriate to those conditions should be adopted.

In cases where no improvement followed this plan, local examination, and adoption of local expedients, were imperatively demanded. Dilatation offered, in such cases, strong probability of relief, and it could be accomplished by either three methods: First, gradually, by means of graduated bougies or sounds; second, forcibly, by any of the strong two-bladed dilators; or third, by an intermediate process, as by the use of Molesworth's four-bladed instrument.

The continued good results which are often obtained by the repeated introduction of bougies, which produce very little dilatation, tended to prove that the condition was rather one of neuralgia than of obstruction. For the treatment of the immediate attack, he advocated the use of permanganate of potash. Beginning its use three or four days before the expected flow, and continuing it until the flow was well established, he had seen the pain mitigated, and often disappear altogether, after two or three periods. Bartholow had attributed its benefits to the power which the drug has of giving up oxygen and ozone to the system.

172. VAGINAL IRRIGATION, apparatus for.—At a recent meeting of the British Gynæcological Society Dr. Imlach showed the apparatus employed by him for prolonged vaginal irrigation. It was a spring pessary with a rubber diaphragm into which two rubber tubes, each a foot long, were inserted flush with the surface, and both influx and efflux tubes terminated in a tap. After the pessary had been inserted within the vulva a yard of tubing was attached to each tap. The influx tube was thus connected with a two gallon jar placed on a table beside the bed or chair occupied by the patient, while the efflux tube hung over a pail. In case of disease of the cervix uteri and of recent pelvic inflammation, he had often continued the irrigation for long periods without intermission. A nurse in attendance was required, as the flow was six gallons in the hour, though it



could be diminished by turning one of the taps. When the ordinary vaginal douche or any of the rather expensive vulvar cups were employed, few women could bear the injected fluid at a higher temperature than 105° or 107°, and the labor was so troublesome that they were seldom used for longer than half an hour each day. With his instrument a

temperature of 120° could be borne without pain. Sometimes various disinfecting solutions were used, but often only hot water during the greater part of the time. He generally began the treatment early in the morning, and it was continued until evening. If the patient was able she sat, reading or sewing, on a low chair, but if not she lay on a couch. In the evening the extra tubing was removed, and glycerine (to which any required medicament could be added) was injected through one tap until it flowed out at the other. Then both taps were turned off and the cervix uteri was left in this glycerine bath all night. Next morning the irrigation was recommenced, and the pessary was not removed until the course of treatment was concluded. In recent pelvic inflammation the relief from painful symptoms, when the method of continuous

irrigation was employed, was far greater than what he had ever obtained by the intermittent and occasional douche. In cervical catarrh this method was sufficient, except when there was considerable laceration of the cervix uteri. And in cancer of the uterus foetid discharge and pain were mitigated. He thought the apparatus would be found to be of service in obstetric practice. It was simple and cheap, and could be made of different sizes by any instrument-maker.

178. PROLAPSED Ovaries by Oöphorraphy. *On the Treatment of.* FRANCIS IMLACH, M. D., in the *British Gynecological Journal*.—Though the term prolapse of the ovaries is only topographical, it has a connotation of intermittent or chronic pelvic pain, or irregular menstruation, of inability to walk without distress, of painful defæcation, and frequent reflex vomiting. In the absence of these symptoms the condition of prolapse is a mere clinical curiosity without practical importance; but their relief, when present, is an acknowledged difficulty, and I have known the removal of prolapsed ovaries to be advised even by those who vehemently denounce the operation of removal of the uterine appendages for inflammatory diseases of the tubes and ovaries. In these painful cases of prolapse there is often more than displacement; the ovaries and tubes may be thickened and adherent by past inflammatory process to the posterior uterine wall or in Douglas' space. Sometimes the ovaries are even adherent to each other, while the uterus is retroflexed and adherent to the sacrum, and there is more or less serous effusion. Such cases seem very common, and, as medicine fails to relieve symptoms, they are often sent to hospital. In many of them the tension and distortion of the parts is probably the sole or at least the chief cause of pain. Chronic ovaritis, unassociated with tubal disease, is often comparatively painless; there is dull aching when the ovaries contain blood cysts, and the power of walking is affected when they lie in the pelvic floor, but there is no acute and unendurable pain unless the ovaries are adherent and the tubes are stretched or distended. I have frequently removed ovaries in which scarcely a particle of healthy structure could be detected, where there was no history or evidence of acute pain. I removed them because they appeared to be the cause of ill-health and the physical source of morphia and spirit craving. But there are degrees and kinds of ovaritis. While I am unable to believe that chronic ovaritis is more curable than chronic Bright's disease, I think no one would maintain that chronic ovaritis forthwith destroys the ovarian function any more than chronic renal disease completely destroys the function of the kidneys. While the thickening of the parenchyma is only partial and the Graafian follicles are not wholly replaced by shriveled thick-walled cysts, ovulation continues and pregnancy may occur. It is true that pregnancy is

often exhibited only in the frequent recurrence of abortions and menorrhagia, and that cirrhosis and absolute sterility seem the most favorable termination to be looked for. But it is an assumption fairly supported by experience that while the ovaritis is not far advanced, abortion is due rather to the adhesions than to the diseased state of the ovum. Now there is a short way of dealing with this class of cases, and with painful prolapse, even when unaccompanied by the annoyance and danger of frequent miscarriages, which is well known to you. I have performed the operation of removal of the uterine appendages many times with very satisfactory results, and when the tubes are distended, their uterine orifices strictured, and their fimbriated extremities occluded, there is no other method of treatment worthy of regard. The value of this operation in pyosalpinx, pelvic hæmatocele, and other diseased states of the tubes, can not be over-estimated, and I think Mr. Tait has not received due praise from the medical profession for his powerful advocacy of it. But I can not admit his argument that the attempt to distinguish the different varieties of chronic inflammatory diseases of the uterine appendages is illogical and impossible. This is to compress pathology out of all recognition, and suggests, what he never meant, that the treatment of all varieties must be similar. But I have many times refused, and I suppose other surgeons have refused, to perform this operation upon young women with pelvic trouble, because no mass could be felt behind the uterus and no distended tubes at its sides. It is no deprivation to remove the ovaries when there is abscess, when they are riddled with cysts or pultaceous, but when there is healthy structure left, it seems somewhat ruthless to take away all chance of child-bearing. Pathology, like surgery, must be sober and should distinguish. It is alleged that the diagnosis is beyond our power. But the pelvis can be more thoroughly explored than, for example, the thorax, and it is chiefly when there is no gross pathology, when there is much pain yet little to be felt, that diagnosis is difficult. Young women are sent to us with a long history of pelvic pain dating from a chill during a menstrual period, a gonorrhœal inflammation, or an accidental abortion. On examination the ovaries are prolapsed and very tender, but nothing more can be found, or the ovaries are adherent as well as prolapsed, and the uterus is, perhaps, retroflexed and can not be replaced. If the patient is anæmic, reasonable measures against this state are tried unless they have been tried already, and if there is disease of the cervix uteri it is treated. When these measures fail, as they very often do, and when the pessaries prove useless, as they almost always do, some advise you to give up further attempts at cure, and some advise you to remove the uterine appendages. I have tried both methods frequently, and am satisfied with neither. If you remove the appendages you generally, though not invariably, relieve the suffering; there is no

question as to that; but then you have sacrificed the power of reproduction. When a woman has had several children and is approaching or past forty, to remove the prolapsed ovaries is perhaps the best practice, but in young women I have abandoned it, and, when the symptoms are so inveterate as to require surgical treatment, I perform a suspensory operation instead of excision, oöphorraphy in place of oöphorectomy. In the virgin the ovaries slope inward, forward, and downward, and are suspended by the so-called infundibulo-pelvic ligaments or peritoneal folds of broad ligament stretching from the pelvic brim to the infundibula of the Fallopian tubes, and containing the ovarian vessels. But after childbirth these folds are relaxed and the ovaries are suspended by the utero-ovarian ligaments, which are dense fibro-muscular cords. When this relaxation of the infundibulo-pelvic ligaments is exaggerated, which may happen without previous childbirth, the ovaries hang vertically downward and are prolapsed whether the uterus is retroflexed or anteverted. By the suture of the hilus of the ovaries to the relaxed infundibulo-pelvic ligaments near the brim, the vaginal position of the ovaries is restored, the Fallopian tubes fold over them as before. This is oöphorraphy.

The operation is an easy one for those who are familiar with abdominal surgery. A median abdominal incision, large enough to admit two fingers, is made. When there are uterine and ovarian adhesions they are separated, and one ovary is drawn out at the incision. The infundibulo-pelvic ligament is thereby put upon the stretch, and, after a small sponge has been placed on each side of it, a small curved needle threaded with fine catgut is passed by means of a holder through its posterior fold near the pelvic brim, and the needle and thread are then passed through the hilus of the ovary, so that when the ovary is returned into the pelvis and the ligature is tightened and tied, the ovary lies easily in its normal situation, and only the knot of the ligature is visible. It should be remembered that while the ovary is held outside the abdomen it is inverted. A single knot having been tied and tightened so that no loop of intestine can possibly be included, the ovary is returned into the pelvis, and the ligature is again gently tightened and secured by a second knot. While suspending the second ovary care should be taken that no strain is put upon the broad ligament, else the ligatures might give way. How long it is until the single ligature on each side is absorbed I do not know, certainly not until long after adhesions have firmly fixed the ovaries in position. My cases seem to show that while retroflexion of the uterus is cured by this operation, anteversion and ante flexion are not, but that the pain and discomfort in the forward flexions are sometimes entirely ovarian. As regards the main purpose of the operation, the relief of pain by suspension of prolapsed ovaries, the results have so far been very satisfactory. Had the operation been in the region of sacrificial surgery, I should have waited

longer before bringing it under the notice of this society, but being conservative and applicable in many cases where other methods of relief short of excision fail, I place this preliminary report before you.

Dr. Bantock hoped his observations would not be taken as indicating a desire to throw cold water on the operation described by Dr. Imlach because of its novelty, but he could not refrain from entering a mild protest against the frequency with which he appeared to perform it, for he felt that Dr. Imlach had not demonstrated the necessity for it. He was particularly struck by one of the cases mentioned by Dr. Imlach in which there was retroflexion of the uterus along with the prolapsus of the ovaries. These were the cases in which he thought the operation was least justifiable, if at all, for it was well known that the ovaries were dragged down by the uterus, and that the replacing of the uterus usually restored the ovaries to their normal position also. Such cases were within his own knowledge. Dr. Imlach was inclined to throw discredit on the pessary. Now there could be no doubt that pessaries were very much abused, both in the sense of being malignant and misused, through the ignorance of practitioners who would not master the principles underlying their use. A patient seeks advice complaining of discomfort in the pelvic region, and the practitioner at once proceeds to adapt, or rather *insert*, a pessary, without anything but the most cursory examination. Now, the first essential for the proper use of a pessary was a correct diagnosis, and a pessary ought not to be introduced until the practitioner has satisfied himself by careful examination that the uterus alone is at fault. He contended that it was not so very difficult to make this diagnosis, and to ascertain that the trouble was due to the condition of the uterus itself rather than the appendages. It may be, and indeed is, very difficult to say whether a given case is one of pyosalpinx, of hydro-salpinx, of hæmato-salpinx, or merely enlargement of the tubes and adhesion of the ovary—and it may be enlargement—from chronic salpingitis and oöaritis, but it ought not to be, and is not, so difficult to separate an affection of the uterus from that of the appendages. He was very much afraid that, stimulated by the remarkable success of Mr. Lawson Tait, it was becoming too much a *fashion* to open the abdomen and remove the appendages without rhyme or reason. If the ovaries—and it even more especially applied to the appendages—were diseased, he quite agreed with Mr. Tait that the only thing to do, in order to relieve the patient of her symptoms, was to remove them. He knew of no remedies which had the slightest effect on a diseased ovary or tube. But when the ovaries were healthy, as in some of the cases described by Dr. Imlach, he did not think this operation was the proper mode of treating any symptoms that might be present, and that it was not justifiable to open the abdomen so frequently as had been done by Dr. Imlach. It was

true, and it was a comfort to find, that Dr. Imlach had been very fortunate in escaping any untoward results, but this was only because he was a skillful operator. He trusted that young surgeons would not be tempted by these fortunate results to follow in his footsteps, for he thought Dr. Imlach was far from proving his case. He had been led to make these remarks by some cases which had come under his observation. Two were of the most striking character. The first was that of a single lady, aged 26, who had been an invalid for many years, in spite of a great variety of treatment, both local and constitutional. Previous to consulting him she had been doomed by an eminent obstetrician to the loss of her uterine appendages. The result of a careful examination was that the patient's appendages were probably healthy, but that she was suffering from a bad retroflexion. It was one of those cases in which a vaginal pessary (of which she had already worn several varieties) could be of no service to her, and which could only be relieved by the instrument which goes by the name of our President. The first menstrual period after the introduction of the instrument was so satisfactory that the patient said she had not been so free from pain for seven years. She was then able to walk about fairly well, and was unconscious of the presence of the instrument. When he last saw her—at the beginning of October—after an interval of about six weeks, and three months after the introduction of the instrument, she had gained 5 lbs. in weight, and menstruation was painless.

The second case was that of a servant girl, aged about 22, who had been in a suburban hospital for three months, suffering from constant pain, for which she had been treated freely with blisters, poultices, subcutaneous injection of morphia, etc., without the slightest benefit, and who had been sent to me to have her ovaries removed. As in the former case, a careful examination failed to reveal any thing but a very acute ante flexion of the uterus, and I at once put in a Meadows' compound stem. No medical treatment whatever was employed. In two days the patient was out of bed quite free from pain, and within the week she went home. She is now in a situation and in perfect health.

These two cases—and they were not the only ones he could quote—justified him in uttering a note of warning against the indiscriminate removal of the uterine appendages, and the much too frequent performance of abdominal section. He thought Mr. Tait owed it to himself to try to keep within reasonable bounds the zeal of our young surgeons, and to put a stop to this reckless practice.

He was told a few months ago by Dr. Emmet that it was no uncommon thing in New York to see a soup-plateful of uterine appendages presented by some of the younger surgeons to some of the societies there. Discredit was certain to fall upon a most important advance in our art, which we owe to the genius and

skill of Mr. Lawson Tait, if such zeal were not discountenanced and condemned, and he trusted his note of warning would not be uttered in vain.

174. DIFFERENTIAL Diagnosis Between Distension of the Fallopian Tubes and Fibromyomata of the Uterus. DR. P. HORROCKS, M.D., in the *British Medical Journal*.—The diagnosis of distension of the Fallopian tube, in the present state of our knowledge, is very difficult; indeed, those who have had the largest experience in operating for this disease, admit that they are never sure that the tube is diseased or distended until they have got it outside, through the abdominal wound. But this difficulty of diagnosis is due to the similarity between distension of the Fallopian tube and many other conditions, more especially pelvic cellulitis, pelvic peritonitis, and ovarian disease. It is, as a rule, not difficult to distinguish between fibromyoma of the uterus and distended fallopian tube. The broad distinctions between these two conditions are as follows:

1. Fibromyomata are usually accompanied by menorrhagia, and distensions of the tube are not.
2. Fibromyomata, especially when intermural, cause uterine enlargement; while, in distension of the Fallopian tube, the uterus is not enlarged, or only slightly, unless complicated by some other condition.
3. Fibromyomata are usually painless, except that there is often dysmenorrhœa (as in my case, published March 6th), and, if large, a bearing-down pain, or sense of weight; while, in distension of the tube, the pain is constant throughout the inter-menstrual period, aching in character, and aggravated by the menstrual period.
4. Nutrition is not much affected in fibromyomata, while it is in distension of the tube, especially when the distension is caused by pus; hence, wasting or loss of flesh is a valuable distinction.
5. The temperature is normal in fibromyomata, raised more or less according to nature and amount, in distensions of the tube.
6. Fibromyomata, when intermural, move much more rigidly with the uterus than distensions of the Fallopian tube.
7. Fibromyomata are much less painful, on pressure, than distensions of the tube.
8. Fibromyomata are usually much firmer in consistence than distensions of the tube.
9. Inter-menstrual discharge, usually yellow, are much commoner in distension of the Fallopian tube than in fibromyomata.
10. The position and direction of the uterine cavity is much more affected by fibromyomata than by distension of the tube.
11. Fibromyomata are usually more or less spherical, distensions of the Fallopian tube cylindrical.

12. Aspiration yields serum or pus in hydrosalpinx or pyosalpinx ; and blood in fibromyomata and hæmosalpinx.

13. Distensions of the Fallopian tube are accompanied by pelvic inflammation much more frequently than fibromyomata.

These are, in my experience, the broad distinctions between these two diseases. Exceptional cases occur where the diagnosis is not so easy ; but distension of the Fallopian tube is much more likely to be mistaken for some disease of the ovary or broad ligament, rather than for fibromyoma of the uterus.

175. DIFFERENTIAL Diagnosis of Distension of the Fallopian Tubes. DR. JOHN W. TAYLOR, F.R.C.S.—The title of Dr. Horrock's paper "A Pelvic Tumor," seemed to invite friendly suggestion or criticism. But the further consideration of a particular case, the exact nature of which may probably never admit of absolute proof, will be unprofitable ; while the broad question of the differential diagnosis of a distended Fallopian tube from uterine myoma is an important one, and its discussion may be eminently profitable. And because I do not quite agree with Dr. Horrock's in the leading features of this differential diagnosis, I desire to point out what, in my experience, are the chief marks of similarity and difference between the two diseases.

1. Menorrhagia may be common to both diseases, but in uterine myoma it is painless, in tubal disease it is very painful.

2. Moderate enlargement of the uterus (from 3 to 3½ inches) is present in tubal distension accompanied by hæmorrhage (as in most cases where metrorrhagia is a prominent symptom) ; an enlargement beyond this may generally be expected in myoma.

3. The tumor formed by distension of the Fallopian tube is always single or double, and is always posterior to the uterus ; nodular myoma is usually multiple, and the situation of the outgrowths variable.

4. The tumor formed by a distended tube, even when chronic and quiescent, is always very tender to touch, whether that touch be from the examining finger of the surgeon, or from the passage of scybala through the rectum ; a myomatous nodule, unless inflamed, is comparatively insensitive. Probably, for a similar reason, dyspareunia is a very general symptom of tubal disease, but is almost unknown in myoma.

5. The outline or shape of a distended tube is fairly constant, in possessing a longer and a shorter axis ; that of nodular myoma is round or quite irregular.

6. The tumor caused by a distended tube varies in its firmness or consistency, and at some time or other will show signs of elasticity or fluctuation ; that of nodular myoma remains hard.

7. Both a distended tube and myoma of the posterior uterine wall may sink lower in the pelvis by causing retroflexion of the uterus ; but, apart from this, the former, although adherent, tends

to sink slowly by its own weight ; the latter reaches a lower point only by increased growth.

8. When pregnancy occurs, the uterine enlargement being caused chiefly by the development of the muscular tissue of the uterus, a myoma of this tissue will be much more likely to be raised by the growing uterus than a distended tube, which is only adherent, and often but lightly, to its peritoneal investment.

The only other condition that is likely to be confounded with distension of the Fallopian tube is cyst or abscess of the ovary. A special form of cystic disease of the ovary is often, perhaps generally, combined with occlusion and distension of the tubes ; and if the latter be correctly diagnosed in these cases, this is sufficient for every practical purpose. But ovarian abscess or cystoma of the ovary in an early stage, the associated tube remaining normal, needs rather careful differential diagnosis from a distended tube. I have found the chief point of difference to be this ; that, in cyst or abscess of the ovary, a space can be found between the tumor and the uterus unoccupied by any swelling ; in distension of the Fallopian tube, the tumor is continuous with the uterus. By this means I have on two or three occasions diagnosed a cystic condition of the ovary only, when tubal disease has been expected ; a diagnosis which has been confirmed by operation.—*Ibid.*

176. AMENORRHŒA. DR. SKENE writes as follows on amenorrhœa in the *Medical News* : In organic diseases, especially those of the liver, heart, lungs, or kidneys, in the advanced stages, we may look for derangements of menstruation. Amenorrhœa is naturally a consequence of hepatic or heart affections, but in renal disease the pathology is not as easy of explanation, as it is perhaps less mechanical than the former. I presume in amenorrhœa occurring from renal disease, that it is due more to malnutrition, tissue deterioration and anæmia. The point, however, to which I specially call attention is the necessity for us to look well to the general organization in obscure cases, and seek there the causes of amenorrhœa, rather than in the pelvic organs themselves.

I would next call your attention to the management of amenorrhœa in chlorotic patients. This condition, known as chlorosis, presents that peculiar form of organization in which we have a partial arrest of the development of the circulatory apparatus and sexual system.

The consequence arising from this insufficient development is, that amenorrhœa is the rule, as is also anæmia. In chlorosis especially, the blood-making organs are sluggish and defective, the heart action is feeble and easily gives out ; they become tired easily on the least exertion. Such individuals can not afford to menstruate, although they may do so under ordinary circumstances. But the moment you put a tax upon the system by

which their vitality is used up in other channels, they become very anæmic and amenorrhœa follows.

You will also find that these patients do not respond well to restoratives and tonics, as will any well developed organization that is simply suffering from anæmia for the time being, because of this peculiarity of organization which I have just described. We give them iron and good nourishing diet, and they improve so slowly and fall back so often that you will find the alterative tonics effect by far the most satisfactory results. You can, of course, never change the organization, or make a well-developed, ruddy, vigorous woman of such a patient. In these cases you will find iodine, in the form of iodide of iron, answers well; this, however, is better in the strumous diathesis. In these cases of chlorosis we find that mercury in small doses is one of the best possible tonics. I know that if you give from one-thirtieth to one fiftieth of a grain of the bichloride to a chlorotic patient three or four times daily, she will improve under the treatment, especially if you add the chloride of iron.

We must also remember that in the chlorotic girl the nervous system is below par, which would indicate the administration of chloride of arsenic. Such patients are likely to be dyspeptic, indicating a lack of gastric juice or its properties; hence, we administer hydrochloric acid. These remedies are contained in the mixture called "the four chlorides," namely, chloride of iron, chloride of arsenic, bichloride of mercury and hydrochloric acid. Under this treatment it is surprising how these pale, greenish-yellow looking girls will improve; but you must continue it for some time in order to obtain the best results.

Some may ask: "Are you not afraid to give one-fortieth of a grain of the bichloride of mercury for a long time?" I have given it for two months regularly, and then stopped for one or two weeks, and then again continued it for one month longer, without any bad effects whatever ensuing. I have also known it to be given for a longer period than that with most marked beneficial results.

The rule is that amenorrhœa appears in the advanced stage of phthisis pulmonalis; when patients are in the third stage of the disease the menses become scanty, and finally cease altogether. But there are exceptions, and this case now before you illustrates such an one. Where amenorrhœa occurs in the first stage of phthisis, it seems to come simultaneously with the lung trouble. In this case it is evidently conservative; a patient with marked degeneration of the lung suffers from impairment of the whole nutritive system; she can not afford to menstruate.

The cause here is organic disease of the respiratory organs, and until that is removed we can do nothing in the way of treatment for her amenorrhœa. I insist upon this, and can not impress it upon you too strongly, as upon this subject the laity, you will find,

will have a great deal to say. Again and again have I seen them insist that the amenorrhœa was the cause of the pulmonary difficulty ; they would insist upon giving the patient hot foot-baths, hot drinks of all kinds, with decoctions of herb teas innumerable, in order, as they said, to establish menstruation.

177. CERVIX UTERI. Rapid Dilatation of the, For Dysmenorrhœa and Sterility.—DR. A. H. GOËLET in a paper on this subject in *Medical News*, says :

The proper time for dilatation, is from one week to ten days after the cessation of the menstrual flow. Much can be accomplished by preparatory treatment, in relieving the rigidity and congestion of the parts, by using every second day for a week previous to the operation, a tampon saturated with either glycerine or boroglyceride. A string being attached, it is removed by the patient in twenty-four hours, and the vagina thoroughly irrigated with hot water.

The instrument preferred is the Palmer dilator, modified in the following way, viz. : The blades are made thicker near the shoulder, and the outer surfaces flatter, to lessen the risk of injuring the cervical mucous membrane, and to prevent too much spring ; and the shoulder is made more abrupt. The amount of the separation of the blades is one inch, at a point corresponding with the internal os, when the instrument is in position. For greater convenience, the thumb screw attached to the handles has been transferred to the left side.

The operation is thus performed : The patient having been anæsthetized and placed on a table in a good light, with the second assistant, who may be a nurse, standing to the right of the patient (left of the operator), the speculum is introduced and the cervix exposed to view. Ordinarily the position on the back with a bivalve or trivalve speculum will answer every purpose ; but for cases where much flexion exists the Sims's position and speculum are required. Unless it has been previously done, the sound is introduced first to ascertain the direction of the canal. Then, fixing the cervix, and drawing it down slightly with a tenaculum in the left hand, the dilator, held in the right, is introduced through the external os without much difficulty ; but its progress is arrested at the internal os, where the obstruction generally exists. But steady, firm pressure exerted in the proper direction will usually overcome the obstruction, and the beak of the instrument jumps suddenly through the internal os. The shoulder on the blades limits the amount of penetration and prevents injury to the fundus. Where steady and firm, but gentle, pressure does not overcome the obstruction, I prefer to withdraw the instrument and pass successively applicators wrapped tightly with cotton, increasing the size until the dilator can be introduced without force. Harsh means can not be too strongly condemned. I have

never found it necessary to bore the external os with a pair of pointed scissors, and consider it a harsh and unnecessary procedure. Should an exceptional case present in which it was impossible to pass the probe, I should introduce a small laminaria tent and wait.

When the blades have been introduced as far as the shoulder, the handles are gradually brought together, the thumb screw being made to follow along and hold the advantage gained when the hand becomes tired, or the dilatation may be done with the screw alone. The amount of dilatation is usually the full extent of the instrument (one inch), but this depends upon the case. After a few moments the screw is loosened and the instrument is withdrawn. The canal is then cleansed of mucus by means of applicators wrapped with absorbent cotton, and a hard-rubber bougie (Hawk's), No. 13 American scale (20 French), is gently passed, followed by successive sizes up to 18 if the case require it. After this, an applicator armed with cotton and dipped in liquid carbolic acid is passed through the cervical canal. A tampon of absorbent cotton saturated with the boroglyceride, fifty per cent. with glycerine, is placed against the cervix and the patient is transferred to the bed to recover slowly from the anæsthetic. Besides possessing antiseptic properties, the boroglyceride depletes the tissues and relieves irritation.

The stem used in the after-treatment is of hard rubber two inches long and slightly curved, having a cup-shaped shoulder which hugs the cervix and remains in position better than the glass stem I formerly used. It is tunneled or perforated through the center to allow drainage. There are three sizes, 10, 12 and 14 English, corresponding with sizes 13, 15 and 17 of the American scale. Its introduction is best accomplished by means of the sponge tent applicator, the end of which is made to fit in the perforation. By using this the stem can be introduced very nearly straight, even when there is considerable flexion. The curve in the instrument takes the place of the curve in the stem and allows the point of the stem to pass the angle in the canal with greater ease. By seizing the cervix on the side with a tenaculum, and pressing the stem firmly into the canal, carrying the handle of the instrument well back toward the perineum, its introduction is facilitated. In retroflexion the movement is reversed.

On the day following the operation the tampon is removed, the canal cleaned of mucus, and the hard-rubber dilators are again passed, after which the stem is introduced as described above and held in position by a similar tampon of cotton soaked with the boroglyceride. This is repeated every day, the stem being removed, cleansed and replaced. After a week of this treatment, during which time the patient is confined to her bed, the stem is removed permanently and she is allowed to get up. In some

instances the stem is introduced curved at first, and after the uterus has become accustomed to its presence it is straightened.

The conclusions arrived at are :

First. That rapid dilatation is a perfectly safe, justifiable and satisfactory procedure, free from the dangers which frequently follow the cutting operations, especially the occurrence of cicatricial contraction.

Second. If the stem be used in the after-treatment, recontraction does not occur, and the operation does not require repetition.

Third. The operation is demanded by the following conditions : viz. (1) Marked stenosis with or without flexion. (2) Acute flexion without actual stenosis, the obstruction existing only coincident with menstruation. (3) Slight stenosis as shown by the passage of the sound, dysmenorrhœa and sterility existing without other cause. (4) Mild endometritis from acquired narrowing of the cervical canal and lack of free drainage for the discharges.

178. PRURITUS of Women.—DR. CHÉVON, in *Le Progrès Medical*. Whether it arise from the presence of prurigo, urticaria, eczema, herpes ; or whether it exists without any eruption at all, it is alike difficult to allay, as the great number of remedies which have been proposed testifies. Of these veratria is by far the most efficacious. When the pruritus is localized at groins, arm-pits, walls of the abdomen, or behind the ears, gentle friction night and morning with an ointment, consisting of thirty parts of lard and a quarter of a part of veratria, usually gives relief. When the pruritus is generalized, the internal administration of the veratria is preferable. Two centigrammes should be made into ten pills with liquorice powder, of which from two to six should be taken daily, either half an hour before, or three hours after meals. Only one should be taken at a time, an additional one being given each successive day until the maximum of six (three milligrammes) is attained.

179. VULVO-VAGINITIS—Astringent Tampon.—If astringent injections have failed, or we (*Revue medico-chirurg. des maladies des femmes*) do not wish to use them because they take so long a time and are inconvenient, recourse may be had to the astringent vaginal tampon with almost certainty of success.

A piece of non-glazed wadding, five to ten cm. square, about half a teaspoonful of powdered alum deposited in the center ; fold over the corners to inclose the alum ; tie with a thread ; introduce deeply into the vagina, and allow the thread to hang outside the vulva, for withdrawing it after three or four days ; a detersive injection. After twelve days at most, the vaginitis, syphilitic or not, or any vaginal discharge with the cervix intact, will be certainly cured.

The tampon has over the injections the advantage of holding separated from each other the different parts of the vaginal canal ; the powder impregnates little by little the walls, mingled with their secretions, and the applications are frequent.

The alum can be replaced by any other astringent powder.

This effect is not the same when the tampon is rolled in the powder ; it comes then directly in contact with the mucous membrane.

180. VAGINAL SECRETIONS, the Reaction of, in Health and Disease. DR. P. MÉNIÈRE finds that, contrary to the opinion of Dr. Martineau : (1) The fact of the vaginal secretions being acid does not prove at all that they are or are not specific. (2) That it remains to be proved that alkaline secretions are ever found coming from vulvo-vaginal inflammations. (3) Secretions having an acid reaction may be caused by a transformation of pus, a transformation known to take place on the surface of wounds and consequently dependent upon the blenorrhagic inflammation. The doctor ends his pamphlet with the following conclusions :

1st. The human organism is essentially alkaline.

2d. Woman is less alkaline than man.

3d. The vulvo-vaginal secretions tend to become more acid as the constitution becomes more debilitated.

The uterine secretions, under the same circumstances, become less alkaline.

In health there is a slight acidity of the vulvo-vaginal secretions (with the exception of that of the glands of Bartholini) and a slight alkalinity of the uterine secretions.

4th. The changes of composition are proved by : Clinical facts, chemical analysis, microscopical examination, and particularly by the fact that certain thermal springs will cure sterility due to this acidity.

5th. Whatever the changes in composition,

The mucus secreted by the vaginal mucous membrane always preserves an acid reaction.

The mucus from the cervix and body of the uterus and that of the vulvo-vaginal gland remains invariably alkaline.

181. UTERINE HÆMORRHAGE.—*Importance of an Exploration of the Uterine Cavity in Cases of Severe, Persistent or Recurrent.* The fact that eminent controversialists find ground for argument upon theoretical points of practice should not deter one from a practical and matter-of-fact rule of action. In theory we may find comfort for having fallen into a given line of treatment, but in practice we must be guided by facts capable of demonstration by their results. What then are the results of these two methods of dealing with the retained products of child-birth or abortion ? Upon the one hand we have the risks of septicæmia,

sub-involution and subsequent uterine hæmorrhage, and, upon the other, the comparatively safe and harmless procedure of exploration and removal. Having adopted the former method of dealing with these retained products, it does not follow that the latter method of procedure may not be required at a subsequent period, but this rule does not work conversely. The products once removed the source of danger, or of annoyance, from septicæmia, arrested involution, or hæmorrhage is no longer a factor in the treatment of the case.

It seems to us that for every single argument which can be advanced in favor of the expectant method of dealing with retained secundines, ten facts can be adduced in support of the procedure of exploration and removal. Passing from the present condition to the remote results which may supervene from retained placental masses, we are likely to be brought face to face with some form of uterine hæmorrhage which will demand earnest professional attention. It is true, we believe, that menorrhagia and metrorrhagia are more frequently due to the retained products of child-birth, or of abortion, than to all other known causes, unless we accept sub-mucous fibroids or polypi. When these hæmorrhages exist the tendency is to treat them as special diseases rather than as symptoms of the conditions named. There can be only one safe method of dealing with uterine hæmorrhage under these circumstances. A correct diagnosis of the underlying cause is the only road to successful treatment.

Having eliminated the many possible causes which may induce uterine hæmorrhage independent of any condition of the uterus itself, a local investigation of this organ is demanded. No patient should be allowed to continue bleeding indefinitely without an attempt to ascertain the cause of the hæmorrhage and an effort to remove the same. In many of these cases it is a waste of time and effort to employ drugs. Nothing short of an exploration of the uterine cavity, and a removal of the retained portions of placental tissue will effect a cure.

With the means of dilating the cervical canal, which are within the reach of every surgeon, the divulsion of the uterus is no longer as grave a surgical procedure as a few years back. The facility of exploration has been vastly simplified, and the operation of curetting is greatly facilitated thereby. It can not, however, be claimed that divulsion or curetting are free from grave risks. They may be said to belong to the class of capital operations, and should, therefore, be executed under strict antiseptic precautions, and with those minute attentions to details which belong to all major surgical procedures. Anæsthesia, rest in the recumbent posture, attention to diet, hygiene, etc., are necessary accompaniments and should never be omitted.

By the substitution of an exact method of diagnosis and treatment of uterine hæmorrhage for the method of uncertain causa-

tion and of indefinite therapeutics, the gynæcologist of to-day is prepared to secure results which were not possible a few years ago. By promptly removing causes, symptoms, as well as their underlying diseases, are liberally discounted in advance, and much time and suffering, incident to the expectant method of treatment, are consequently avoided.

Obstetrics.

182. LACTATION.—*The Effect of Long Continued Lactation on the Uterus and Ovaries.* DR. J. SINCLAIR in the *Revue Medicale*. During pregnancy the mammary glands are the seat of a congestion which becomes more and more intense until delivery, when there is produced a sudden acceleration which may sometimes extend as far as an inflammation. At this time the excitation of the breasts has a marked effect upon the contractions of the uterus. As soon as the new function is established, the uterus and ovaries are the seat of a rapid process of involution; menstruation is partially or totally suspended, for ovulation is rare during lactation. The only author who has yet spoken of the effects of long continued lactation upon the genital organs is Marion Sims, who has said that it may be the cause of inflammation of the neck of the womb.

From the observation of a large number of cases, M. Sinclair has arrived at the following conclusions :

- 1st. Lactation tends to prevent conception by its influence upon the ovaries in retarding a return to a state of perfect ovulation.
- 2d. After weaning, the evolution of the ovaries becomes more rapid than during lactation.
- 3d. After prolonged lactation, a sudden cessation may be followed by a rapid evolution of the uterus and ovaries, giving rise to symptoms of hyperæmia of the ovaries and uterus.
- 4th. Prolonged lactation may produce a super-involution of the uterus and ovaries, causing, when circumstances favor a partial or complete prolapsus of the womb.

183. NATURAL LABOR AND ITS MANAGEMENT.
—DR. WILLIAM T. TAYLOR, in the *Medical Times*. Natural labor is the vital process by which the foetus, having reached the full period of utero-gestation, is expelled from its mother's womb, —the child's head and the pelvic cavity being correctly proportioned to each other—to carry on an independent existence in another sphere. Its duration is usually not over twenty-four hours. It is customary to divide labor into three periods or stages : 1st,

The dilatation of the os uteri and rupture of the membranes. 2d, The expulsion of the child. 3d, The delivery of the placenta.

Proceeding first to consider the course of natural parturition, we observe that from a few days to a fortnight before labor there is generally a subsidence of the mother's abdomen, with a tilting forward of the gravid uterus, owing to a relaxed condition of the abdominal walls, which produces more pressure on the bladder and causes frequent micturition, and in some cases an irritable state of the bowels, with griping pains. The breathing is less oppressed, and the patient is more disposed to exertion. The labia may become swollen and softened, and a mucous discharge flows from the vagina. This may be observed for some time before labor, but when it is streaked with blood it is popularly called "a show," and indicates that the os is beginning to dilate and that labor has begun. The patient now complains of pains in the back or abdomen, which occur at long intervals, and which increase in severity as the intervals shorten. The os, which at first was quite high up in the pelvis, gradually sinks lower, and the opening becomes circular and enlarges so that the membranes within can be felt to become tense with each pain. The os dilates more slowly and more painfully in the first labor than in subsequent ones. There is often much sickness of stomach and vomiting, which is considered a sign of an easy labor, for it assists to relax the os uteri. These preliminary or "grinding pains" are very worrying to the woman, who is afraid that she will die, and she often so expresses herself, being filled with gloomy forebodings, particularly in her first labor. This despondency, however, disappears as the labor progresses, for when the os has opened to the size of a half dollar it will expand more rapidly, and soon the "forcing or expulsive pains" will begin, when she will become calmer, for she feels that her "bearing down" efforts will assist to expel the child. During these pains the membranes will protrude through the os and become tense, receding as the pain subsides. This advance and retreat goes on for some time, until finally with a severe pain the membranes burst and the liquor amnii flows away. Sometimes the membranes do not break until they have dilated the vagina and appeared at the vulva, in which case the labor will soon terminate; when, however, they are very thin and break easily, the progress of the labor will be slow and tedious, constituting what is called a "dry labor." It is best not to rupture them if it can be avoided, for their dilating power is very useful.

With the evacuation of the waters there is generally a cessation of a pain for a longer interval than before; but as the second stage now begins, and the head comes down to bear directly against the os, the uterus increases its action, while the patient will seize hold of the hands of an attendant and place her feet against the bed-post, or any immovable object, in order to fix the body firmly, so as to bring the abdominal muscles and those of the extremities to her

assistance, and will bear down and strain with all her might to expel the child. The veins of her neck will swell, and the pulse increase in frequency, and she will be thrown into a profuse perspiration. Now the pains become stronger and more decided, and during the intervals she often falls into a sleep, to regain her strength for renewed efforts on waking. Her outcry is different from what it was in the first stage, and an experienced accoucheur can generally detect this stage of labor by the voice of the patient, which has been called the "parturient grunt."

The head slowly advances with each pain, and then recedes slightly during the interval, but still making progress onward—being somewhat compressed and molded, if large—until it sinks gradually into the cavity and at last reaches the floor of the pelvis, when the face will turn into the hollow of the sacrum to bring the vertex under the arch of the pubis.

The pressure against the sacral and sciatic nerves will cause severe pains, extending down the extremities and cramping the calves of the legs and soles of the feet, which can be relieved somewhat by friction. The pressure against the rectum will evacuate the bowels if they are not already empty, and the patient will often insist on getting up to have a stool. Now there is a bulging of the perineum, which subsides as the pain goes off, to be repeated again and again, until the head, by gradually and slowly stretching the parts, at last appears at the vulva, when, with a strong effort and a scream from the woman, it escapes from the maternal parts.

The relief to the patient is so great at this time that she often expresses herself as coming from agony to bliss. A rest for a time ensues, and the uterus resumes its labor to expel the body, and when this is accomplished the second stage is ended.

Within a few minutes or at most a half-hour the uterus will again begin to contract, so as to detach the placenta with its membranes, which will soon be expelled, and this will end the third stage of natural labor.

I have now described the process of labor when nature does all the work; therefore the question may arise, What is the accoucheur to do during all this time? An answer to this question brings me to the *management* of natural or normal labor.

On being engaged to attend a case of labor you should take the earliest opportunity to visit your patient, so as to see her and ascertain her physical condition, her temperament, her habits and modes of life, and also to give her an opportunity of seeing you, so that she may be less embarrassed when labor begins. Then inquire if she has any headache, or any trouble with her bowels or kidneys, or any abdominal pains. If she has no complaint, and is a primipara, advise her to anoint the abdomen two or three times a week with sweet oil, lard or cosmoline, so as to soften the skin and thus alleviate the pain which often arises from the stretching of the abdominal walls. Tell her to keep the bowels regulated by fruit

or laxatives, and to take gentle exercise every day, but not to tire herself by long walks, and to attend to her household duties if they are light. Give her encouragement as to the "coming event," and advise her to summon you whenever she may require your aid.

Should she have headache, give her ten grains of the bromide of potash, with a scruple of the bitartrate of potash, every four hours in a wine glassful of water. If this does not relieve, or if there should be a numbness in the hands, arms, or limbs, the urine must be examined for albumen. When this is found, ten grains of the benzoate of calcium given every two hours will often render the urine normal. But if the headache is not relieved by these remedies, the application of six or eight Swedish leeches to the back of the neck will generally accomplish a cure.

It is advisable in *primiparæ* to use a lotion of alum and diluted alcohol with glycerin to the nipples so as to fit them for duty when required.

To stimulate the secretion of milk, a liniment of castor oil and the oil of origanum is highly recommended by Dr. Henry H. Smith as an excellent galactagogue; and if the mammary glands are bathed with it daily during the latter part of pregnancy, they will be well supplied with milk when the child is born. I have used it successfully in several cases.

When summoned to a case of labor, go as soon as possible, for it is only after seeing your patient that you will know if you are needed. Inquire how long she has had pains, how frequently the pains occur, and if there has been any show; whether the bowels have been moved, and if she has urinated. Having ascertained these facts, observe the frequency and character of the pains, and their location. If they are slight, and occur at long intervals, you can leave her for awhile; but if the intervals are short, you should have her placed on her left side at the edge of the bed, and, having washed your hands and anointed the forefinger of the right hand, make a vaginal examination, so as to discover the size of the pelvic cavity, the position of the *os uteri*, and its state of dilatation—whether soft and patulous or hard and wire-edged. Should it be in the former condition, you may know that it will dilate easily and quickly; but if in the latter state, you must expect a tedious labor. Note also the condition, shape, and size of the abdominal walls, for at this time, by palpation and auscultation, you may be able to discover the position of the child in the womb—whether it presents by the vertex or the breech—and, if the abdominal walls are thin, you may possibly know if the occiput is anterior or posterior.

Having satisfied yourself that labor is commencing, you should encourage her by saying that her pains are natural and that she is doing well; that she can walk about her room, or lie down, as she pleases. Then go away for a while, telling her that you will return in good time; for this will assure her that she is not seriously ill,

and she will feel less anxiety than if you were to remain constantly with her.

Should there be no change in the os in two or three hours, and the pains severe during that time, I usually give twenty grains of the hydrate of chloral with one-eighth grain of sulphate of morphia, which will allay them and may put her to sleep, but will not stop the progress of labor, for the os will soften and dilate more rapidly under this treatment.

When the os attains the size of a half-dollar, you must remain, for then it may dilate very suddenly and your help might be needed at any time. Now the presentation can be ascertained, which, as the rule, will be of the occiput, either anterior or posterior. If the former, let it alone; for it will descend readily into the pelvic cavity if the relations between the pelvis and the foetal head are proportional. But if it present posteriorly, my plan has usually been, when the os is sufficiently dilated, to change the position to an occiput front, and thus shorten the misery and pains of my patient.

The patient may desire to have her back supported, and this can be permitted by allowing some one to place their hands across the lumbar region and press gently during the continuance of the pain; or by the nurse sitting on the bed and putting the soles of her feet (protected by stockings) against the back, by which much relief may be afforded to the sufferer.

If the labor be slow, a change of position is sometimes beneficial, and some women will get on their hands and knees or kneel beside the bed on the floor, assuring you that they can help themselves better by such a proceeding.

During this stage the membranes may rupture and the liquor amnii be evacuated suddenly. To guard from being deluged by this overflow, it is prudent to protect your arm and hand with a napkin.

The womb will now contract more forcibly to expel its contents, and the head advances along the pelvic canal by a somewhat spiral movement until it reaches the perineum, which it gradually distends as it moves onward to the outlet. My plan has been to support gently this distended and bulging perineum with the left hand, (protected by a napkin), for its thinning walls might yield and be torn by a sudden impulse of the head when propelled by a strong pain. Although some object to this proceeding as useless, yet I have never seen any injury result from such action, and it certainly does no harm. This gentle pressure should be made on the posterior part of the perineum and coccyx, allowing the anterior part to yield.

When the head is born, see if the cord is around the neck, and if so it should be loosened and slipped over the head or shoulders, whichever can most easily be done, so as to prevent the child from being strangled. Another pain will usually bring the body. If,

however, it does not come, pressure should be made on the uterus, while the accoucheur places one or two of his fingers in the axilla, and, grasping the head with the other hand, makes traction to deliver the body. Immediately, or in a few minutes, the child will cry out, and respiration is established. If, however, this does not occur, a smart slap on its buttocks or a dash of cold water on the breast (followed by friction), or rolling it according to Marshall Hall's method, will generally start up its vocal organs, to the great joy of the mother—and, I may say, to the satisfaction of the doctor.

When the pulsation of the umbilical cord has somewhat diminished, a ligature made of several strands of thread is applied to it about two inches from the navel, and the child may be separated from its mother and given to the nurse. Some apply a second ligature before cutting the cord, to prevent bleeding from the placenta; but this is objectionable, for a slight hemorrhage from the maternal end of the cord will empty the placental veins and thus diminish its size and promote its expulsion.

The expulsion or removal of the after-birth constitutes the third stage of labor, which may occur very quickly or be retained for twenty minutes or a half-hour, when pressure should be made on the abdominal walls, or the squeezing process called the "Crédé plan" adopted, which consists in grasping the womb externally with the hand and forcing out its contents; or traction should be made on the cord while the hand or the fingers are inserted through the relaxed os uteri, and, having seized the placenta, gradually detach it, twisting it upon itself so as to separate all the membranes from the uterine cavity. This appears to be the proper proceeding; for the placenta, having accomplished its purpose, is of no further use, and, being a foreign body, should be removed as soon as possible, for the safety of the mother. To stimulate the uterus to contract, a teaspoonful of the fluid extract of ergot is sometimes given immediately after the child is born.

If there be a laceration of the perineum requiring your attention, it should be closed at once by two or three stitches; but if it be a very slight tear, let it alone, for it will heal itself. Any clots remaining in the vagina should be removed; and when the uterus is reduced to a firm and hard globe, a binder can be applied to brace up the relaxed and distended abdomen. The bandage is objected to by many accoucheurs; but if it be kept well down below the hips and across the pubic region, it will afford good support to the relaxed parts; besides, the mothers usually request its application in order to prevent a "pendulous belly."

The objectors to a binder on a parturient woman would certainly apply one to an ascitic abdomen when it had been tapped; therefore I can see no valid reason for the objection in this case.

The patient is then placed more comfortably in the bed, the soiled things are removed, a dry napkin is applied to the external

parts, and the room is darkened, so that she may be allowed to rest for several hours. The accoucheur, however, should remain for some time, to watch the pulse and ascertain the amount of the discharge; and before he leaves, he should give some general instructions concerning the mother and child.

He should repeat his visit in from six to eight hours, to ascertain her condition.

185. ABORTION, Treatment of.—I shall include under abortion the early expulsion of the ovum, *i. e.*, during the second to the fourth month of pregnancy, and refer only to cases in which we have decided that abortion is inevitable.

I believe in the expectant plan of treatment, as I think it should be carried out. If nature is able to complete the process without any accidents, I let her do it. If I find that the unaided efforts of nature are insufficient, or if dangerous symptoms appear, I consider it best to interfere. In a large proportion of cases the ovum is thrown off entire, without any rupture of the foetal membranes, and no interference of any kind is necessary. In the more serious cases, as a rule the sac is ruptured, and, the whole or a portion of the contents being retained, the hæmorrhage is more or less severe. The physician is frequently called in at this stage, and if the hæmorrhage is only slight, and the cervical canal not dilated, he may enjoin rest and administer ergot. At the same time, the patient requires careful watching, and the doctor should not be far away. I consider such a condition a very serious and unsatisfactory one; it always gives me great anxiety. If the cervix is dilated to such an extent that I can introduce my finger, I always make it a point to completely empty the uterus before leaving my patient, *i. e.* I adopt the so-called radical plan.

If the cervical canal is not dilated or dilatable, and hæmorrhage is severe, what shall we do? One of two courses must be adopted. We must either introduce a plug into the vagina, or a tent into the cervical canal. I prefer the vaginal tampon, which, when properly employed, answers our purpose admirably. It controls the bleeding, stimulates the uterus to contract, and promotes dilatation of the cervix. I adopt the plan, which I learned from Dr. Taylor, of New York, of introducing an ordinary roller bandage, a portion of which, at least, has been soaked in some antiseptic solution, and leave this not longer than twenty-four hours. At the end of that time the plug is easily removed by seizing the end of the bandage and pulling it out, without causing any pain. I need not say how important it is that this plug should be efficient, and to accomplish this it is better to use a Sims' speculum, and pack the cotton very carefully around the cervix and over the os in the first place, and then filling the vagina completely, and putting on a T bandage

if necessary to keep it in a proper position. When this is removed it will generally be found an easy matter to clear out the uterus. I have been sometimes surprised to hear some physicians speak lightly of the dangers of hæmorrhage in abortions.

I have objected to the use of the tent, because I think it is always accompanied with grave danger. Pelvic cellulitis and peritonitis are very apt to follow, and this may soon result in a fatal termination, or cripple a woman for life. Forcible dilatation is recommended by Dr. Goodell, in place of the introduction of tents ; but the procedure has not thus far been generally adopted by the profession.

I have found, however, some cases in which the use of the tent seemed actually a necessity. After an abortion, something may be retained in the uterus for some time, and become the so-called fibrinous polypus. This must be removed, and to accomplish it I prefer the use of Thomas' blunt curette, which can generally be introduced without any process of dilatation ; but if this can not be done, I use a sea-tangle tent, adopting all the precautions which, so far as I know, can be used to guard against its dangers. After dilating the canal, I use my finger or fingers to remove the contents of the uterus in preference to any other instrument that I know of.—*Epitome.*

186. ERGOT. *Is it indicated during labor or abortion?* DR. H. STAFFER in *l'Union Médicale*.—Never. It is always contra-indicated. This is the unanimous advice of the accoucheurs of the profession. It was, and still is one of the favorite themes of Professor Pajot ; who does not cease to say in the amphitheater of the faculty, as well as in private course, and who repeats to day: "*never give ergot, when the uterus is not empty, when it contains fœtus, placenta, or clots.*"

On his part Professor Tarnier expresses himself thus: *Ergot has killed many infants and women. Proscribe it so long as the uterus has not expelled its contents.* In the same way the fellows in their complementary courses, seize upon all occasions to repeat: "*ergot is a medicine very dangerous when the uterus has not expelled all of its contents.*"

This unanimous consent gives the force of a law to that proposition, the interdiction of ergot during labor or abortion, that is to say, during the expulsion of the products, of conception—fœtus, envelopes, coagulated blood, etc.—is one of the axioms of obstetrics.

On the other hand it has been said, "*ergot is a medicine heroic when the uterus being empty a hæmorrhage follows.*" It has been said with the same unanimity, but there are restrictions, because it has its disadvantages even when the uterus is empty. We will explain on that point but the proposition is true. It is for that reason that the academy justly influenced by the evil resulting from this

action of the drug has deprived the midwives of the right to use ergot.

What is the action of ergot ?

It tetanizes the uterus.

What are its evils ? What its benefits ?

During labor, it arrests the circulation inter utero-placental. As a result the infant dies from asphyxia. During delivery, it closes the uterine orifice, and that door may remain as solidly closed as the cell of a prison. In that prison the after-birth—placenta, membranes, clots—runs the risk of being retained and putrefying. As a result the patient is exposed to septicæmia, when the uterus is empty, same action, but wholly beneficial, *at least at the moment when it is produced*. We repeat we will explain that reserve, the tetanization of that organ closes the yawning spaces through the power of the muscular network which enlaces the vessels. They are the living ligatures (Pisiard). As a result the hæmorrhage stops, and the flow of blood that was carrying away the life of the woman is arrested.

Why in spite of a rule so precise, in spite of the effects so well known, is ergot still administered at the wrong time ? Some physicians commit that fault because they do not understand the matter, or they are only half educated and become fearful at the decisive moment. There are still other practitioners who, generalizing from some cases wrongly interpreted, in which ergot given at the wrong time succeeds, conclude that the classic precepts are exaggerated ; as for example :

1. In a case of labor the child presents by the shoulder, presentation not made out. The membranes are broken to discover the presentation and bring down the child. Nothing is disclosed and nothing descends, but the opening is tetanized, the child dies, from asphyxia, the orifice becomes still more tightly closed, and all operation being impossible, the mother dies from exhaustion, owing to the duration of the labor, or from rupture of the uterus. Such cases are not rare. A woman pregnant at four or five months aborts. The person who assists has authenticated the expulsion of the foetus and has no thought of the remainder, for she does not know that abortion at the fourth or fifth month is made in two movements, first the foetus, then the placenta. Some days, some weeks, or some months after she is called again in all haste to her client who has been taken with severe hæmorrhage with syncope. She gives Ergot. Now that hæmorrhage was caused by the separation of the placenta. Possible consequence, tetanization of the uterus by the ergot, imprisoning the placenta, and death of the patient by septicæmia.

2. A woman aborts at about the third month of pregnancy, a veritable rain of blood flows from the vagina ; the flow continues ; a good dose of Ergot is given at once and the effect obtained continued by small doses given in potion. Result, death of the ovum

which perhaps would have lived, retention and putrefaction ; septicæmia more or less grave.

A woman pregnant from four to five months aborts ; expulsion of the fœtus only, but they know the placenta remains in the uterus. The hæmorrhage caused by the separation of the placenta appears in time with violence. What is to be done ? The physician is aware of the anathema pronounced by the school of Paris against ergot. He has also heard the tampon spoken of ; he has even introduced at one time into the vagina, six or seven balls of chârpie, without much effect and with what difficulties which he still recalls. What is to be done is therefore very perplexing. He says I have no chârpie, and I have no speculum.

How put in a tampon without a speculum ? while I am finding and preparing what is necessary, the blood will continue to flow, afterward it will be necessary to put her to bed, and to remove a woman who has had a hæmorrhage is a serious matter. On the other hand, I have the ergot in my bag ; that powder is quickly administered and quickly acts. It will arrest the blood, and who knows may expel the afterbirth. At the school it was taught that it was dangerous, but my confrere, X., affirms that they exaggerate, he has even published two observations conclusive. The least argument removes his hesitation ; the ergot is given. Possible consequence, retention of the placenta, death by septicæmia.

A woman happens to expel the fœtus. She is not delivered. A hæmorrhage follows. The practitioner knows that in these cases it is necessary to introduce the hand into the uterus, separate the placenta, seize and extract it ; but the thought of entering the uterus dismays him. Why not extract the placenta by drawing upon the cord ? He draws and the hæmorrhage increases. He pulls more strongly and the cord breaks. The thought of introducing the hand dismays him still more, for he has lost the thread of "*Ariane*," which would have surely led him through the labyrinth of the vagina and the neck into the "back shop," to make use of the words of an old master of the French school. The hæmorrhage is not stopped. Then the observations conclusive of confrere X. comes to the mind of the practitioner and gives him the idea of administering the ergot. Same consequences as in the preceding case.

A woman in labor ; fœtus, placenta, membranes, all are expelled. One of those hæmorrhages called internal, invisible, for nothing flows out, but making itself manifest by the sudden development and softness of the uterine globe, and by the syncope declares itself. Again one of those cases in which it is necessary to introduce the hand and remove the clots. It is much easier and less trying to give a good dose of ergot. It is given. Result : retention and putrefaction of the clots, septicæmia of greater or less duration.

3. *Hasty generalization of some badly observed facts.* That is the

case of confrere X. who has published the conclusive observations. Confrere X. has been called in haste to a woman suffering from a hæmorrhage and in a serious state of syncope. The patient has aborted some time previously at about the fourth month of pregnancy. She has so far recovered that she has resumed her usual duties. A flow of blood, with pains unexpectedly occurs. The physician makes an examination. His finger penetrates a mass of blood clots, the blood flows, it is necessary to do something at once and arrest the flow. An injection of ergot is made. Some minutes later a little reddish mass is violently expelled from the vagina. It is a recent placenta, bloodless and shrunken. It is thrown out with the rapidity of the cherry-stones that the gamins take between the thumb and finger and shoot at the nose of their friend (comparison of Professor Pajot.) Some clots follow and the woman is immediately relieved. The confrere is astonished. He thinks vaguely of a fibrous tumor or a second abortion. He has not seized the possible link between the abortion which he had not seen and the accident at which he had assisted, he had been hardly pressed and the pressure was not to make a diagnosis but to treat the symptoms. He had given the ergot as the homœopaths give veratium or atropia. Uterine hæmorrhage and ergot are two ideas which, most naturally in the world, link together. But that which causes the most astonishment is the rapid expulsion, and the immediate improvement of the patient. "According to the teaching of the school," he exclaims: "I have committed a fault, and the result of that fault has been an immediate cure. Therefore the school is mistaken." A chance has taught him that it is not necessary to swear by the word of the master, and he promises himself to profit by the experience and to give at the first occasion the ergot in good earnest.

He begins again, therefore, once, twice and the success confirms his opinion. A third occasion presents itself, the ergot is given with a confidence his preceding experience seems to justify. but nothing of the sort, and the patient dies. An accoucheur consulted apprises him of his error, but he shakes his head, he sees only the three successes. He recommences and succeeds again, therefore he was right. A fifth occasion presents, he does not miss the opportunity, and the patient dies. He does not comprehend that to shoot cherry-stones the school boys take care to seize the back part, or else it will slip in the wrong direction. The placentas which the ergot expelled were partly out of the uterus.

We see, thus, that absolute or relative ignorance of the question involved, or hasty generalization from facts observed badly, are the cause of the evils attending the use of ergot. The examples might be multiplied, but these are sufficient.

(To be continued.)

187. *URINE in Puerperal Eclampsia.*—M. DOLERIS has

found that some specimens of the urine of patients with puerperal eclampsia give, on drying, crystals whose composition is at present undetermined, but which are slightly soluble in alcohol and soluble in acidulated water, and a somewhat concentrated solution of which injected into animals killed a rat and three sparrows, while comparative experiments made with a portion of solution containing no crystals produced no effect. M. Doleris found a normal amount of urea in the blood of two patients dead of the disease, but an increased amount in that of two others who were cured. In one case only were soluble and toxic ptomaines met with. He believes that puerperal eclampsia is of an infectious nature, for it is not only the kidney which is affected, but other organs, the liver in particular presenting characters more or less allied to those noted in acute yellow atrophy.—*Lancet*.

188. *VINEGAR in Puerperal Hæmorrhage*.—The editor of the *Revue des Maladies des Femmes* states that it has accidentally been discovered that a large glass of vinegar given as a drink to a woman attacked with puerperal hæmorrhage produced immediate contraction of the uterus, and may therefore be employed when ergot is not at hand. Doctor Grigg, acting upon this suggestion, has recommended the use of vinegar to several midwives. He considers it a specific which is of immense value, especially to physicians in country practice.

189. *CHLOROFORM in Child-Birth*.—Respecting the action of chloroform in child-birth, Dr. J. H. Claiborn, of Virginia, thus summarizes :

1. The process of labor in all its stages is facilitated.
2. The duration in all its stages are shortened.
3. The accidents in all its stages are less frequent.
4. The pangs in all its stages may be entirely yet safely obtunded.

190. *POST-PARTUM Hæmorrhage*.—DR. G. DE GRIFFITH, in *Med. Press and Circular*.—MRS. D—, æt. 35, of very spare habit, was taken in labor with her first child on May 14th. I had been informed that our patient had had one miscarriage attended with severe flooding. I therefore had given to her as I was rupturing the membranes 3 j. of liq. ergotæ, and had the uterus well followed down. The child being severed, and as there was a considerable gush of blood, I introduced the hand, and withdrew the placenta, which I could not effect without opening my hand, inasmuch as the hand, closed upon and containing the afterbirth, could not over pass the brim owing to the great contraction. While taking the afterbirth away with the left hand, I followed the uterus well down with the right, and got the uterus completely under grasp and control; but finding a tendency to hæmorrhage

I made the patient turn on her back, and held the uterus steadily in the pelvis. What I wish particularly to dwell on in this paper is a means of arresting post-partum hæmorrhage which I brought forward some years since, and which I have on every needful occasion carried out with none but the best results in every case, and which is seldom if ever practiced in this country.

I have said that the woman was emaciated. While I was compressing the uterus, so as to prevent post-partum hæmorrhage, I noticed the aorta was plainly to be felt and rolled about under the fingers much in the same way that the empty rectum is perceptible through the posterior vaginal wall, except that, of course, there was in this case the blood coursing along the vessel. I took the opportunity of pointing out to my assistant and to the pupils that the intestines were well out of the way, that they were readily kept aside; that the hand could be quite easily buried in the abdomen, that the aorta was plainly to be felt in its abdominal course right down to its bifurcation; that it could be with the greatest facility compressed against the spine before the bifurcation occurred, either with the ulnar edge of the hand that grasped the uterus through the abdominal walls, or with the fingers of either hand, and the circulation quite shut off from above the bifurcation of the aorta, so as to arrest any flow to the uterus, or even into the iliacs, and consequently that there would be a complete stoppage of all uterine hæmorrhage. I demonstrated the great projection of the sacral promontory, the altogether narrowed brim, and the division of the aorta into the iliacs, which were traceable for some distance along their course; and the fact that, owing to shutting off the arterial supply so completely and so suddenly, there would be time for the blood in the uterine vessels to coagulate, and to form a good, long and firm coagulum which, on letting on the circulation again, could not be easily displaced. Indeed, I consider, that if the heart-beats and the *vis à tergo* generally force the clot in the uterine vessels toward the uterine mouth or extremity, this very forcing in that direction would in proportion to the force and to the length of the clot in the uterine vessel augment the safety of the patient, inasmuch as the clot, being by the *vis à tergo* forced toward the uterine cavity extremity of the uterine sinus, would be made, like a swelling cork, a more completely-filling and more effective plug, and a greater protection against a recurrence of the hæmorrhage. Moreover, the blood being as it were, flood-gated back to the upper part of the body, the brain could be kept plentifully supplied, that supply being still further maintained by the lowering of the head which I observed and always insist upon. The plan acted most satisfactorily, no hæmorrhage whatever occurring after the gush to which I have referred.

This calls to my mind the case of a Mrs. W——, who was the first to teach me this valuable lesson. She had been delivered of

child and placenta ; all had gone on naturally and easily ; I was waiting for the binder ; suddenly the patient turned mortally faint ; I threw up the clothes ; the blood was running away *per vaginam* as quickly as possible ; the uterus I was firmly grasping, but still the hæmorrhage was not checked ; I tightened my grasp upon the uterus ; the aorta was thumping at my hand ; it occurred to me to compress it while also grasping the uterus that had become flaccid and inertiased ; the bleeding was speedily staunched, the patient rallied and quite recovered, but has ever since borne the tell-tale hue and complexion of the profuse and sudden loss.

In several other instances have I adopted the same plan with such invariable success, that I have never had to resort to any of the other expedients for arresting post-partum hæmorrhage, though I have attended many thousands of cases, including placenta prævia, accidental and unavoidable hæmorrhage, long and short forceps, craniotomy, cephalotripsy ; and have, in fact, done every operation many times over, except the Cæsarian section. In all cases—simple as well as difficult—it is my invariable practice to tak away the afterbirth by introducing the hand into the uterus, if the placenta does not readily come away after I have separated the child and given it to the nurse. Even in the worst cases of inertia, where severe bleeding obtained, I have never failed to arrest the latter ; and I believe the uterus has been stimulated by the unwonted stoppage of its blood-supply, and by the very compression of the aorta necessary to accomplish our object.

One other circumstance connected with my cases which I consider a great prophylactic to post-partum hæmorrhage, is that— if, after the child has been severed and has been handed to the nurse, the placenta should not readily come away with expression, I introduce the left hand into the uterus, remove the afterbirth, following down the womb as it descends into the pelvis, and in no instance have I had any occasion to regret such a line of practice.

191. OBSTETRICAL Practice, The Best Anæsthetic in.—In a paper read before the Montreal Medico-Chirurgical Society on the A. C. E. mixture, DR. SMITH arrived at the following conclusions :

1st, A. C. E. is an effective general anæsthetic, producing as deep insensibility as chloroform. 2nd, Its action is rather more rapid than chloroform, but to develop its effects more of it is required, the proportion being about as 6 is to 4. 3rd, It produces a less prolonged second degree of narcotism than other anæsthetics. 4th, When its effects are fully developed, the narcotism is very prolonged, and is reproduced with great ease. 5th, Its influence on the nervous centers is more uniform, and it creates little, if any disturbance or break of action between the respiratory and circulatory functions. 6th, The final escape from the

organism is rapid, so that the symptoms of recovery are sudden. 7th, In some cases, but very rarely, it produces vomiting. 8th, When it kills, it destroys by equally paralyzing the respiratory and circulatory mechanism.

DR. SMITH devoted several pages of his paper to show that cases of death were not due to the exceedingly small quantity of the anæsthetic, but to the condition of the patient's circulatory and nervous system at the time. It was a well-known proverb that by being united in marriage we halved our sorrows and doubled our joys, so by uniting chloroform and ether we doubled the advantages and halved the dangers of each. Certainly chloroform was safer in midwifery cases than in any other, because the woman was recumbent, and, moreover, she was making expulsive efforts, which guarantee a plentiful supply of blood to the brain. But it could only be entrusted to a medical man; and where there was only one, and he had the forceps to handle, chloroform was admittedly a dangerous drug. Besides, it was not a drug that could be used very well during the first stage of labor, during which, however, some women suffer more than in the second stage. Alcohol killed by the head or by coma; chloroform killed by the heart or by syncope; ether killed by the lungs or by apnoea; but by adding the three together, and then only giving one-third the quantity, we obtained an average effect sufficient to produce anæsthesia, but remaining very far short of death. Alcohol was a very good anæsthetic as well as stimulant, and would have been used for that purpose in the form of vapor long ago were it not for the defect that it irritates the bronchial tubes when administered alone, but not so when mixed with chloroform and ether, the A. C. E. mixture being just as pleasant as chloroform to inhale. In conclusion, Dr. Smith said that he had so far only had occasion to use it in a hundred and ten cases, but that he would continue to employ it as long as he lived, and that, perhaps, in ten or twenty years he would have the inference of a thousand instead of a hundred cases. He did not pretend to be the discoverer of this combination, nor even to be the first person in America to use it; in fact, in reading the current literature of the day he frequently came across reference to this anæsthetic. Indeed, for all he knew to the contrary there might be a hundred very able men who constantly used it, and yet who had not had the time, nor felt it their duty, to lay it before their professional brethren.

192. PLACENTA Previa.—Dr. E. G. Edwards, London: In conclusion, I recommended, when head presents, to separate the placenta from the os uteri all around as far as you can reach, if labor has commenced. Then, if possible, detach the placenta on one side completely, so as to allow you to reach the membranes and rupture, to give ergot by the mouth or ergotin by hypodermic injections, and use a little pressure over uterus externally. In

most cases as the water discharges the head descends, thereby plugging, by pressure on the placenta, so thoroughly as to check the hæmorrhage. I am in the habit of emptying the bladder by a catheter and having forceps on hand, and a roller bandage around the abdomen in order to give external support if required, and holding a plug against the os with my hand if the flooding is severe. I had no occasion to use forceps in any case of placenta previa so far.

Respecting turning, I should, in cross birth, carefully try to turn by manipulation by finger in the vagina and external assistance.

I might here state that I have thus succeeded in cross births, lowering the shoulders, raising the hips and so bringing the head, feet, or breech down. I see no reason why we should not try, especially in cross births, in cases of placenta previa.

My advice is never to introduce the hand through the placenta and thereby gain entrance into the uterus for the purpose of turning, for thereby violence is sure to follow. In fact I am not an advocate for turning by introducing the hand into the uterus under any circumstances, unless all other means fail; as I consider that procedure very injurious to the mother and very apt to be followed by shock or by inflammatory action of some kind. Possibly in some cases no other mode is practicable, and it must then be had recourse to. Respecting plugging, I have always succeeded in arresting hæmorrhage by this means, giving thereby safety and time. It likewise stimulates the uterus, and the os is found more dilated. I would not give ergot unless I knew the bladder was empty, the parts proportionable, the os dilatable, and instruments at hand. Flooding nearly always relaxes the os. My rule in giving ergot is first to make sure of head, feet or breech presentation, with some pain, and in cases in which I have decided to deliver at once. Ergot would only increase the mischief in placenta previa, unless it was given to assist your efforts at the time of expulsion of the child.

Respecting hot drinks, I am aware that cool or cold drinks are generally recommended in cases of flooding. I do not, however, believe in giving cold drinks in shock or great depression. Opium, in small doses, as a stimulant, I hold very valuable in flooding, and large doses in the cases requiring the plug, to give rest and sleep when time for rallying is necessary.

I am of the opinion, if there has been great loss of blood, the sooner you deliver the better, provided the hæmorrhage continues, and there is pain, and the patient not too weak; but you should not introduce the hand into the uterus if you can possibly avoid doing so, always giving an anæsthetic when you do. I put emphasis on this latter—anæsthetic (ether or chloroform). My practice and advice is, in all severe midwifery operations, to give one or the other. My reason for thus advising are:

- 1st. It is humane and prevents unnecessary suffering.
- 2d. By its use depression and shock are lessened, if not prevented altogether.

In conclusion, following up turning in cases of placenta previa, the only argument I can conceive justifying it when the head presents, is the speedy delivery of the child in order to save its life, but how often will we be disappointed in this, as it is well known where some floodings have taken place the child is usually born dead. To compensate for that, by plugging and waiting, the shock of introducing the hand into the uterus will be avoided and the maternal parts not injured. I believe the time is not far distant when turning, by introducing the hand into the uterus, will be the exception, not the rule, as at present.

I have adopted a procedure of my own, viz., when called to a case of placenta previa near the end of pregnancy, when flooding is in progress, with the pains continuing and the patient not too weak or exhausted, to separate as much of the placenta as I can on one side, detaching a portion of it completely from one side, bringing it down into the vagina; and if the os is not well dilated, and the pain continuing, to squeeze the detached portion between my fingers, or to press it firmly against the opposite side until the os dilates; then I give ergot and rupture the membranes, still pressing the detached portion of the placenta until the head descends sufficiently to check the hæmorrhage.—*Age*.

193. UTERINE Hæmorrhage, Strychnine in. In a communication to the *British Medical Journal*, DR. L. ATTHILL says: For many years, I have been in the habit of administering strychnine in combination with ergot in the five following classes of cases:

1. Where, from previous experience, I had reason to anticipate the occurrence of *post partum* hæmorrhage.
2. Where, during the progress of a tedious labor, the uterus becoming exhausted, I had reason to believe that hæmorrhage would follow on delivery.
3. In cases of menorrhagia depending on imperfect involution of the uterus.
4. In certain forms of hæmorrhage caused by the presence of uterine tumors.
5. In some forms of amenorrhœa.

In the first class of cases, I generally commenced the treatment three weeks before the expected advent of labor. If the patient was anæmic, I combined the strychnine with iron; if plethoric, with muriatic acid; in all cases, the vehicle being the infusion of ergot; and I have had the most satisfactory results. After the patient has taken the medicine for a week or ten days, I discontinued its use for forty-eight hours, recommencing it again. In several cases in which the patient had invariably suffered, previous

to the adoption of this treatment, from severe *post partum* hæmorrhage, none occurred; in all the others, it was markedly less. I never once have known any unpleasant result follow; in none was the foetus affected, all the children were born alive, and, as far as I know, none suffered from convulsions subsequently. I may here add that I believe ergot to be absolutely innocuous to foetal life, unless it produces its specific effect, that is, excites almost continuous uterine action; and my firm belief, founded on a very extended experience, is that ergot is powerless to originate uterine action; it will stimulate an uterus previously in action, or one in which uterine action is about to commence, as in the case of an uterus containing a blighted ovum or foreign body; but not, as far as my experience goes, under any other circumstances, and not always under these. The formula I generally use is the following: Infusi ergotæ ad ℥ vj; ext. ergotæ liq. 3 ij; strychniæ 3 j; acid. hydrochloric dil. 3 ij. A tablespoonful, by measure, three times a day. In anæmic cases, substituting a drachm of the ammonio-citrate of iron for the muriatic acid.

With respect to the second class of cases, ergot here is still more unreliable than in the previous class of cases; strychnine promises better results. I generally combine it with ergot, giving ten drops of the liquor strychniæ (*British Pharmacopæia*) with the first dose, and five with a subsequent one, if necessary. I can confidently recommend this combination.

In conclusion, that strychnine exerts a direct action on the uterus, is to my mind clearly established. Added to ergot in cases of parturition, it greatly increases the efficacy of that drug, being specially useful when *post partum* hæmorrhage is anticipated. It appears to have the power of increasing the tonic contraction of the uterine fibers, and of preventing their undue relaxation when the pain has subsided. It is specially valuable, administered in combination with ergot, in cases of menorrhagia depending on imperfect involution of the uterus. Its use is contra-indicated in all cases where any inflammatory condition of the uterus or ovaries exists. Strychnine is also useful in many forms of amenorrhœa, where it seems desirable to stimulate the uterus and ovaries; and in such cases it is often prescribed with advantage, in combination with iron. It should be administered cautiously, commencing with three or four drops of the liquor; the dose to be gradually increased to eight or even ten three times a day. I have, however, known even small doses produce very unpleasant symptoms, some patients being apparently very susceptible to the effects of the drug.

194. INSUFFICIENT Lactation. Cause and Therapeutics of. DR. DOLAN.—*Med. Z. and La France Médicale* :

1. The therapeutic action on the secretion of milk is only possible through the blood.

2. All liliacæ, cruciferæ, solanæ, and umbelliferæ, pass from the blood into the milk.

3. There are no veritable galactogenic remedies; the action of jaborandi is uncertain.

4. Belladonna is an anti-galactogenic drug.

5. The proportion of the salts in the milk can be augmented by medicines.

6. Diuretics and purgatives can be administered to the child through the milk of the mother.

7. Dietetic and hygienic means improve both quantity and quality of the milk.

The causes of insufficient lactation are:—

1. Insufficient formation of the glandular utriculi or of the epithelium. In this case treatment is useless.

General plethora can be suppressed by appropriate diet and castor oil.

2. Torpidity of the mammary glands; electricity, warm poultices, and cupping will relieve this condition.

3. General anæmia and insufficient alimentation. Dolan regards the presence of dental caries as very important in this respect; the country-women, who usually possess faultless teeth, can also nurse their children best.

195. INTERNAL ROTATION. *The Nature and Cause of the Movement of.* DR. D. BERRY HART, in the *Edinburgh Med. Journal*.—Although internal rotation is one of the most striking movements of the part engaging in the pelvis during parturition, we are yet in want, not only of a reasonable explanation of its cause, but also of a detailed description of its nature in the various presentations, normal and abnormal, in which it happens.

I purpose considering it under the following divisions:

1. The hindrances to a right conception of the causation of the movement, due to erroneous anatomy and description.

2. The anatomy of the parts concerned in bringing about rotation.

3. A description of the movement of internal rotation in the various presentations.

4. The causation of the movement of internal rotation, general and particular.

1. The Hindrances to a Right Conception of the Causation of the Movement, due to Erroneous Anatomy and Description.

Our knowledge of the cause of rotation has been greatly retarded by the assumption that it must be due to some shape of the bony pelvis. The tissue lining the pelvis has been regarded as having little influence, although in German text-books the pressure of the tissue lining the posterior wall of the pelvis has always been held to be a factor in determining it. Now, mere change of shape in the bony pelvis will not cause rotation; the only result can be a

distortion of the head, *i.e.*, the head will mold itself to the varying capacity of the bony pelvic walls, but not necessarily rotate. This holds even more strongly of the breech. Another very misleading term has been posterior rotation of the occiput in head cases, or chin in face presentations. As I hope to show, no part in the pelvis ever rotates primarily backward. Rotation is always a forward and inward movement.

2. THE ANATOMY OF THE PARTS CONCERNED IN ROTATION.

This must be considered in relation to—

(a.) The Canalized Pelvic and Pelvic Floor.

(b.) The Foetal Body, especially the Head.

(a.) *The Canalized Pelvis and Pelvic Floor.*—This may be considered as made up of two parts, one in front of the transverse of the brim and true pelvis, the other behind it. The first is the anterior half of the pelvis and tissues, the second is the posterior half with its tissues.

During the second stage of labor the anterior half of the canalized pelvis is practically the same as that of the bony pelvis, inasmuch as the bladder and retro-pubic fat are partially drawn out of the pelvis, and it is lined symmetrically with vaginal and cervical tissue.

The posterior pelvic wall, chiefly sacrum and coccyx, is different, however, inasmuch as it has springing from it a segment of the pelvic floor, the sacral segment, attached to the sacrum, coccyx, and edges of the sciatic notches.

This sacral segment is the most important factor in bringing about rotation, and as such must be fully considered.

It is fixed above to the sacrum and coccyx, extends downward from the bony outlet of the pelvis posterior to the ischial tuberosities, and is unattached at the lower end. It thus includes the posterior vaginal wall and tissues behind it, and has imbedded in it parts of the obturator internus, coccygeus and levator ani muscles, as well as the transversus perinei. Part of the strong gluteus maximus also enters into its formation.

From its attachments it can be pulled back and made to recoil, *e. g.*, by Sims' speculum, or driven back by the part of the foetus engaging in the pelvis. It is the strong segment of the pelvic floor, as will be understood by following the measurements :

Length from tip of coccyx,	.	.	3 inches.
Thickness at level of cervix uteri,	.	.	2 inches.
Do., at anus,	.	.	2 inches.

The length is of course increased during labor. The sacro-sciatic ligaments, coccygeus, and levator ani muscles all help to restrain undue driving back of the lower portion of the sacrum and coccyx as well as of the sacral segment.

It is important to consider it divided into two portions—a right

lateral and left lateral—lying respectively to the right and left of an imaginary vertical mesial line on the lower portion of the sacrum coccyx and posterior vaginal wall. The anterior pelvic wall may be considered as the concave aspect of a segment of a circle, on part of which the rotating head or body glides.

One specially important point to be kept in mind is that the anterior and posterior walls of the canalizing pelvis are of very unequal lengths, and that consequently the anterior portion of the presenting part at the brim will touch the sacral segment, and be compressed or pushed forward by it very much sooner than the presenting part lying posteriorly. The recoil of the sacral segment is increased as we pass toward its lower end, as it acts like a lever of the first kind.

(b.) *The Fetal Body, especially the Head.*—The only point I wish to note here, is the relation between the head and canalized pelvic floor so far as mere fitting is concerned. One factor in rotation depends on whether or not the head, for instance, passes through the pelvis easily or the reverse. In the production of malrotated head cases this is an important factor. Another way to put this is as follows. The question as to whether the occiput or sinciput will be deeper in the pelvis depends on whether the relation between the head and pelvis is such that the latter accommodates the suboccipito-bregmatic diameter or the suboccipito-frontal. The head is here considered as made up of the occiput and sinciput—the one begins behind, the other in front of, a coronal plane drawn at the posterior margin of the anterior fontanelle.

3. A DESCRIPTION OF THE MOVEMENT OF INTERNAL ROTATION IN THE VARIOUS PRESENTATIONS.

I briefly remark, first, that while the path of the head during rotation is a complex one, and is not exactly known, it is sufficient to describe it as a rotation of the head on an imaginary and varying vertical axis, occurring when the head is at a varying part of the true pelvis, usually below the level of the ischial spines, *i. e.*, when the leading part comes within the sphere of the sacral segment.

Internal rotation takes place in the head, face, forehead, breech, and spontaneous expulsion cases. The clinical facts as to internal rotation in each of these is briefly as follows:—

HEAD.—In the L. O. A., the occiput, known by its small fontanelle, lies at the brim, opposite the left ilio-pectineal eminence, becomes driven down, and when it strikes the left lateral half of the sacral segment, *i. e.*, when asymmetric to the sacral segment, is rotated through quarter of a circle to the front and right, so that it lies wholly or partially within the pubic arch, and as it now lies symmetrically to the sacral segment, rotates no further.

In the L. O. A. the occiput rotates to the front and right, *i. e.*,

the part deep in the pelvis, and first striking the left half of the sacral segment, becomes rotated to the right and front.

In the R. O. A. the occiput rotates to the front and left through quarter of a circle, *i. e.*, in the R. O. A., the part deep in the pelvis, and first striking the right lateral half of the sacral segment, is rotated to the front and left.

In the R. O. P. we may have two rotations—(a.) The normal or long, and (b.) The abnormal or short.

(a.) The normal or long takes place so that the occiput passes from the region of the right sacro-iliac synchondrosis to the pubic arch. Clinically, the occiput is felt leading, and the occiput fits the pelvis accurately—the head is never a small one. In the R. O. P., therefore, when the occiput leads and strikes the right half of the sacral segment before the sinciput touches the left lateral half, it is rotated through three-quarters of a circle to the front and left. (b.) The abnormal or short rotation has been greatly misunderstood, owing to erroneous terminology. In R. O. P. cases where the head is small, the sinciput is deep in the pelvis, consequently strikes the left half of the sacral segment first, and is rotated by it to the front and right through quarter of a circle. Thus the occiput lies in the hollow of the sacrum, and no further rotation of the head takes place, inasmuch as the head is now symmetrically placed to the whole sacral segment. The malrotated occipito-posterior cases are really rotatious forward of the sinciput, occur in cases where the head is small, and can easily be predicted during labor by noticing the deep position of the sinciput, *i. e.*, deep position of anterior fontanelle. They are best termed, therefore, after rotation, sinciput to pubis cases.

I need not detail the L. O. P., as we have either (a.) long rotation of the occiput from left to right, or (b.) short rotation of sinciput from right to left.

The rotation of the shoulders is simple. In the L. O. A. the right shoulder is anterior, strikes the right half of the sacral segment first, and is rotated by the pressure on its anterior aspect, to the front and left, through quarter a circle. The head is therefore externally rotated to the left (restitution).

In the R. O. A. the left shoulder is anterior, and is, for reasons already given, rotated to the front and right, causing external rotation to the right (restitution).

In the L. O. P. and R. O. P. either shoulder may strike a lateral half of the sacral segment, and thus rotation of the shoulders may occur to right and front or left and front in each.

Internal Rotation in Face Cases.—We name face cases according to the position of the chin (mentum) as L. M. A., R. M. A., R. M. P., L. M. P. In these positions the rotations are in all respects equivalent to the occipital one, the chin taking the place of the occiput. Thus in the L. M. A., the chin makes the short

rotation to the front and right; in the R. M. A., it makes the short rotation to the left and front.

In the R. M. P., however, the normal rotation is the long one from the right sacro-iliac synchondrosis to the pubis; but we occasionally get, not the chin rotating directly to the front, but the forehead making the short rotation to the front. In the L. M. P. we have exactly a similar process. In mal-rotated face cases, therefore, where the chin after rotation is found in the hollow of the sacrum, we have really a rotation of the forehead forward.

In Breech Cases internal rotation is always short, the nearer hip rotating through quarter of a circle to the front. The rotation of shoulder and head is easily known, if the general law, to be stated at the end, is kept in mind.

In Forehead Cases rotation usually takes place so that the face lies behind the pubis, after which the occiput passes over the perineum prior to the escape of the face and chin under the pubic arch. Forehead cases are so rare, however, that the particulars in each form of the mechanism is not known with certainty. In the most remarkable form of mechanism known as Spontaneous Expulsion, where the doubled-up foetus is driven down into the pelvis shoulder first, and the breech driven over the perineum, we usually get, prior to this delivery of the breech, a rotation of the deep shoulder, so that it passes from the region of the obturator foramen to lie under the pubic arch. A case of this will be presently narrated. Finally, I may note that in the rickety pelvis, where the concavity of the anterior pelvic wall is much diminished, we may get internal rotation occurring as in an occipital case in a normal pelvis; while in the kyphotic pelvis the right occipito-iliac position is common, "the occiput rarely turns forward, deep transverse position is common, and posterior rotation not uncommon" (Champneys).

4. THE CAUSATION OF THE MOVEMENTS OF INTERNAL ROTATION, GENERAL AND PARTICULAR.

It will help greatly to clear up our ideas as to the causation of rotation if we first exclude certain alleged factors.

Firstly, The shape of the rotated part can have no essential place in determining this movement, inasmuch as the shoulder in the pelvis, with its soft and varying outline, is rotated in spontaneous expulsions just as the occiput is.

Parts of the foetus of the most variable shape and consistence, if in the pelvis, may become internally rotated. Occiput, sinciput, chin, forehead, buttock, shoulder, all varying from one another markedly in shape, size, and consistence, yet rotate when once they come within the range of a lateral part of the sacral segment.

Secondly. The shape of the inner surface of the bony pelvis is

not of essential moment ; or, to put it in another way, the contour of the normal inner aspect of the true pelvis is not necessary to rotation. Rotation may occur in the rickety pelvis where there is great loss of concavity in the anterior and posterior bony pelvic walls, and where the much vaunted inclined planes have lost most of their inclination ; or in the kyphotic pelvis, where we have changes diametrically opposed to those of the rickety distortion.

The presence of the anterior concave pelvic wall, on which posterior pressure may slide the deep presenting part, more than its precise shape, is important. The great factor in producing rotation is the recoil of one lateral half of the sacral segment on the part first touching it. We have seen that the sacral segment in the canalized pelvic floor is fixed above to the posterior portion of the bony pelvic outlet (*viz.*, sacrum and coccyx, and as far forward as ischial tuberosities), while it is free below. It is thus driven back by the successive portions of the foetus, causing the well-known bulging of the perineum. Rotation ceases when the part in the pelvis is symmetrical to the sacral segment, *i.e.*, when the head has rotated so that the occiput is symmetrically placed to the sacral segment, we get no further rotation. This shows clearly that it is the deep engaging part first striking a lateral half of the sacral segment, driving it back and causing its recoil, along with the guiding influence of the corresponding pubic ramus, which is the essential cause of rotation.

The recoil of a lateral half of the pelvic floor is not in the conjugate, but as near as may be at right angles to the insertion of that half into the bony pelvic outlet, *i.e.*, more or less parallel to the corresponding half of the anterior segment of the bony pelvis or to the pubic ramus. This leads the way to the additional factors. The initial Solayres' obliquity of the head, shortness of the anterior pelvic wall, excess of elastic tissue in the posterior bony wall, and therefore greater friction on, and retardation of, the part lying there—all help to bring about a deep anterior engaging portion which shall strike a lateral half of the sacral segment, and be pushed forward during the pain in a direction nearly parallel to the corresponding half of the anterior segment of the bony pelvis.

We may now apply these general principles to the various instances in which internal rotation occurs.

In the L.O.A. the occiput strikes the left lateral half of the sacral segment early, for the following reasons :—The head with Roederer's obliquity (*i.e.*, occiput deeper at brim than sinciput), and with an antero-posterior diameter in the right oblique of brim (Solayres' obliquity), has its occipital end placed vertically above the left lateral half of the sacral segment, and in consequence of the shortness of the anterior pelvic wall, strikes it early as compared with the sinciput. The latter not only has the longer posterior pelvic wall to travel along, but is also hindered by the fric-

tion of the greater thickness of tissue there. The left lateral segment, therefore, recoils early on the posterior aspect of the occiput in a direction parallel to the corresponding half of the anterior pelvic wall, *i.e.*, the occiput becomes rotated. The head now lies symmetrically to the sacral segment, with its right and left halves resting on the corresponding halves of the sacral segment, and, therefore, no further rotation takes place. In the R.O.A., for the same reasons, the occiput strikes the right lateral half of the sacral segment, and is rotated to the front and left.

In the R.O.P. we have two possibilities in rotation to explain. There may be first what is termed the normal or long rotation of the occiput inward and to the left, from the region below the sacro-iliac synchondrosis to the arch of the pubis; and the abnormal rotation, where the sinciput rotates from a point below the left ilio-pectineal eminence to the posterior aspect of the pubis, the so-called posterior rotation of the occiput into the hollow of the sacrum. This last descriptive term is a very bad one, and should never be used, as both rotations are to the front—the one of the occiput to the front and left, the other of the sinciput to the front and right. The difference in the rotation is due to the relation in point of size or fitting of the head to the pelvis. If the head so fits the pelvis, *i.e.*, is so large that a sub-occipito bregmatic diameter engages in the pelvis, then the occiput first strikes the right lateral half of the sacral segment, and is rotated to the front; whereas, if the head engages in the pelvis with the sinciput low, *i.e.*, if the pelvis can accommodate the occipito-frontal diameter, then the sinciput first strikes the left lateral half of the sacral segment, and is rotated to front and right.

The same reasoning holds for the L.O.P. Usually the occiput first strikes the left lateral half of the sacral segment, and is rotated to the front and right; or the sinciput, when the head is small, first strikes the right lateral half of the sacral segment, and is rotated to the front and left.

In face cases we have in the L.M.A. and R.M.A. the chin leading and being rotated as in the occipital cases. In the R.M.P. and L.M.P. the size of the head is again influential. If the so-called extension is well marked, then the chin first strikes its corresponding half of the sacral segment, and is rotated to the front. The forehead, however, may be deeper, and thus the forehead is rotated to the front, the chin passing indirectly into the hollow of the sacrum. This happens when the fronto-mental diameter is small. I need not go into detail in breech and shoulder cases. In breech cases the anterior hip is deep, the posterior always being retarded, and thus the anterior is always rotated to the front.

The law as to internal rotation, I now state as follows:—

1. Whatever part of the foetal head or trunk first strikes a lateral half or lateral part of the sacral segment is rotated internally to

the front, and in the direction opposite to the lateral half or lateral part of the segment so acting.

2. No part of the foetus is ever rotated directly into the hollow of the sacrum. The passage of the occiput into the hollow of the sacrum in its so-called posterior rotation is exactly equivalent to the passage of the sinciput into the hollow of the sacrum in normal rotation, and should be excluded from descriptive terminology, as the latter is.

3. The direction of rotation may be predicted in any case by noting what part first strikes a lateral half of the sacral segment.

This view of rotation gives, in my opinion, a more coherent idea of all the rotations than those based on the shape of the head or pelvis only. I do not deny the influence of the shape of the internal surface of the pelvis, but I deny that it alone can determine rotation.

It seems to me, also, that we here see an explanation of the pelvic inclination, Roederer obliquity, Solayres obliquity, and general shape of head and body of foetus.

The pelvic inclination, as we term it, gives us, by its slope, a short anterior pelvic wall, and may be looked on as due to a slicing away, as it were, of part of the anterior pelvic wall. The kidney shape of the brim, such that the head there does not fully occupy it, and lies with the Solayres' obliquity, is necessary for the distension of the bladder during pregnancy; while the shape of the occiput, chin, neck, and sternum allows of Roederer's obliquity in head cases, or extension in face cases, so as to make a part, either occiput or chin, usually lead during labor. The short anterior pelvic wall and oblique and deep position of a part of the foetus (occiput, chin, breech) bring necessarily the foetal part lying anteriorly at the brim early within the reach of a lateral portion of the sacral segment, i.e., tend to cause its early rotation.

196. VAGINAL HÆMATOMA, the Etiology of Occurring During Labor. DR. J. CROOM.—Sanguineous tumors, thrombi and hæmatoma of the vulva and vagina, whether occurring before, during, or after labor, are comparatively rare accidents. Under such a heading are included all collections of blood forming in the submucous or connective tissue, and they may be found in the cervix, any part of the vagina, labia, or perimetric connective tissue. The condition receives more or less attention in every text-book, and the varieties with their progress, terminations, and treatment, have been exhaustively discussed, in lengthened memoirs, by Deneux, Laborie, Cazeaux, Hervieux, Hugenberg, and Barnes, and have received shorter notice from many others. Into the general question of the nature and management of these hæmorrhages in general it is no part of my present paper to enter. I wish, therefore, to eliminate, first, the blood extravasa-

tions which are limited to the cervix, and which in a minor form are familiar to most of us. In an aggravated and serious form they are at times associated with elongation and hypertrophy. This much I wish to point out, that they are the result of direct pressure and crushing. Second, Those which form in the labia vulvæ, and which are the result of unusual pressure applied to already distended and varicose vessels.

My remarks apply entirely to that form of hæmatoma which is vaginal, usually confined to the posterior wall, and is developed during and after labor.

The rarity of such cases may be gathered from the following statistics, viz.,—Hugenberger, St. Petersburg Hospital, met 11 in 14,000 labors. Deneux saw 3 in forty years. Paul Dubois 1 in 14,000 labors. In Vienna Hospital 18 occurred in 33,241 deliveries.

The records show that these extravasations are associated with very considerable danger. Deneux, out of his 60 cases had a mortality of 11. Probably it is owing to this fact, Deneux being the earliest writer on the subject, that the opinion has gained firm ground that this condition is an extremely dangerous one. Now, this is scarcely the fact, for out of 50 cases collected by Winckel, death occurred only six times; and the three cases which I had just mentioned all recovered perfectly, and one had a normal labor subsequently. No doubt a good deal depends on their extent and situation, but so long as they are confined either to the vulva or vagina, remain of moderate dimensions, and do not begin in or extend to the perimetric tissue, they seem to be less serious than was at one time supposed. My present object is to point out what I believe to be the etiology of this form of vaginal hæmatoma, or, at all events, *one* of the causes. In whatever respects the cases I have recorded may differ, they had the following points in common:—*1st*, The women were multiparæ. *2nd*, The labor was delayed. *3rd*, The cause of delay was misdirection of the uterine power from anteversio uteri or pendulous belly. *4th*, At the occurrence of the hæmatoma the head was still at the brim.

First, then, there is the common feature of pendulous belly. This, of course, when not associated with narrow brim, as it some times is in primipara, means anteversion of the gravid uterus from relaxation of the abdominal walls.

This is a question of degree so slight that the contraction of the uterus may be sufficient to remedy the displacements, or to such a marked degree that the fundus uteri comes to lie on a level lower than the cervix.

Nay, more, cases have even been related where, owing to a split in the recti muscles, the gravid uterus has prolapsed through the aperture and reached almost to the knees, covered only by skin and fascia. In even moderate cases there is a certain amount of flexion as well, the under part of the anterior wall of the uterus

being bent over the anterior wall of the pelvis, the symphysis pubis acting as a fixed point. In this way tension is made to a very marked degree on the vaginal walls. This tension is produced by two factors—*1st*, The tilting forward of the uterus over the symphysis—this, of course being in direct proportion to the amount of anteversion. *2nd*, By the uterine pains. They will, by drawing on the posterior vaginal wall, increase the tension already caused by the altered position of the uterus. It will be apparent, and it is a fact borne out by clinical observations, that the symphysis pubis acting as a fixed point, the greatest tension and stretching will be on the posterior vaginal wall. In an interesting and suggestive paper read to this society some years ago by Dr. Hart on Rupture of the Vagina, he drew attention to two facts bearing on the present subject—*1st*, That vaginal rupture is generally high up on the posterior vaginal wall; and *2nd*, When it does occur, it is generally transverse. The posterior vaginal wall, especially at the upper part, is, during pregnancy, very thin. This thinning is increased in a normal labor by the uterine action dragging up the cervix and vaginal walls; but in the cases I have just referred to, there is the very great additional stretching induced by the abnormal position of the uterus, and the long-continued ineffectual contraction of the uterine walls. The venous supply to the vaginal wall consists of a large plexus of veins, some submucous and some just outside the muscular coat, emptying themselves into the internal iliac. These veins, in common with the other veins in the pelvis, are valveless. In pregnancy these veins, to a greater or less extent, become varicose, owing, no doubt, to the heavy uterus preventing the entrance of the venous blood to the vena cava. So uniformly is this varicosity present, that, under the name of Jacquemier's test, it has come to be recognized among the corroborative signs of pregnancy. Often the venous tissues become so distended with varicose enlargement that they become quite perceptible to the finger in the vagina, and can be felt projecting as well-marked cyst-like swellings. Further, it must be borne in mind that, in proportion to the amount of varicosity, so will the wall of the vessel be thin. Hervieux, Laborie, and others are not inclined to believe that varix enters much into the production of these vascular swellings. Perret has collected a series of sanguineous tumors of the vagina, cervix, and vulva, and points out that they occur more frequently by five times in primiparæ than multiparæ, and that they become proportionately rarer according to the number of the pregnancy. Now, in this record Perret mixed up all the varieties. One can easily understand how, under the enormous distending pressure on the cervix and vagina caused by the advancing head, the mucous membrane, carried down by the head, glides over the deeper tissues with a sort of tearing movement. The connecting submucous vessels are torn, blood is extravasated, and small ecchymoses or thrombi are

formed. This will to a greater or less extent occur in every labor. But we must not be diverted from the point at issue. The cases I have recorded were all multiparæ, and hæmorrhage took place while the head was still at the brim, and while no pressure was being made in the vagina. The mechanism of the production seems to me to be this,—The thin varicose veins on the posterior vaginal wall all undergo stretching along with that structure by the uterine efforts ; but, in the cases referred to, the tension is enormously increased by the anteverted position of the uterus ; and further, this tension is long maintained by the ineffectual attempts of the uterus to right itself. What occurs is this : during the labor one or more of these vessels give way under the strain, and rupture, but owing to the tension no hæmorrhage takes place. When, however, the case is recognized, and the uterine obliquity overcome, either by position or pressure, or both, the undue tension of the posterior vagina relaxed, the compression of the vessels removed, the hæmorrhage slowly and gradually takes place into the connective tissue. In this way it comes about that the rupture of the vessels takes place during the labor, but that the hæmorrhage actually occurs only after the displacement of the gravid uterus has been rectified. Into the prognosis, course, symptoms, and risks of these varieties of tumors it would be altogether absurd in me to enter ; they are well described in every text-book. My object is simply to draw attention to the hitherto undescribed cause of their production, and if I may draw a practical lesson, I would add this as one of the risks of labor complicated with a pendulous belly, and an additional reason for recognizing and rectifying this form of dystocia early.—*Ibid.*

197. BREECH PRESENTATIONS. *Management of.*—

At a recent meeting of the New York Academy of Medicine, as reported in the *New York Medical Journal*, DR. ROBERT A. MURRAY read a paper which deals principally with the measures necessary to be taken to deliver in breech cases and to diminish the percentage of mortality. The importance of an effort in this direction was apparent from the fact that the statistics quoted from authorities gave a mortality in breech presentations of about one in eight and half cases. Among the causes of this class of presentations were a contracted pelvis, an excessive amount of liquor amnii, violent movements, and a peculiar formation of the lower segment of the uterus. It was also remarkable what a large proportion of the cases occurred in premature labor and multiple pregnancy. The statistics of Simpson went to show how frequently the child being dead, the loss of tonicity of the spine and the presence of flaccidity in the tissues caused malpresentations ; those tables demonstrated that there was a tendency after the sixth month of pregnancy for the head to present.

In a case of breech presentation in which the mother's pelvis

was of full size and regular form, and the child of moderate proportions, labor would probably be accomplished without particular difficulty, and the obstetrician had only to wait. If, however, the indications were that the labor would be difficult, if the pelvic cavity was not roomy, or the child of large proportions, version, if it was to be performed, should be done early, before the rupture of the bag of waters. If the case was allowed to progress, no obstruction being met with, the critical moment for the child would be just after the birth of the trunk and lower extremities, for now the cord was in danger of becoming compressed between the unyielding head and the pelvic wall. The cord should be pulled down and placed next the sacro-iliac synchondrosis by the side of the child's head, where it would be least likely to become compressed. The contractions of the uterus might be followed up by the hand, and flexion of the head might be aided by raising the trunk of the child. But in cases in which the limbs were extended upward over the front of the child, so that the toes were near the face, the breech was not nearly so large as the child's head, and, being readily molded, entered the pelvic cavity; the entire fœtus then presented, as Barnes had well described, the form of a wedge with the base upward. Now, if traction was made up by means of hooks, fillet, or forceps, and unsuccessfully, as it was likely to be, the apex would be dragged into the pelvis, and, the cavity becoming more tightly filled, compression of the cord would be increased, and the uterus rendered more irritable, and here the only measure for the safety of the mother and child was to bring down a foot. The use of the blunt hook to do this was difficult, as it was apt to slip and injure the soft parts or cause fracture of the thigh; consequently, if the child was living, it should not be resorted to.

The fillet, if it could be guided over the limb, might cut the tissues or prove too weak to overcome the difficulty. The obstetric forceps had been recommended in these cases, but it was condemned by most authorities. It was only adapted for use on the head. The performance of cephalic version, as recommended by Spiegelberg, would be possible only before rupture of the bag of waters and before the breech became wedged.

The clear indication in such a case was to break up or decompose the obstructing wedge, which was to be done by bringing down the foot. The position of the breech in relation to the pelvis having been determined by ordinary diagnostic points, the hand was to be passed in front of the breech where the foot lay, and one foot seized by the instep and brought down; then the breech would probably soon descend. The cord would be better protected than if both feet were brought down. The foot nearest the pubes was most easily drawn down. If the case was not otherwise complicated, the labor would now go on naturally. If the breech filled the brim, or was forced into the pelvic cavity, little space would be left for the operator's hand, and under these

circumstances the hand would have to be passed up to the fundus uteri in order to grasp the foot. That hand should be introduced whose palm would touch the abdomen of the child when introduced. When the foot was reached, preferably the anterior one, it was to be seized by the instep and drawn down out of the vulva. It was essential to get hold of the foot; taking hold of the knee, or hooking the thigh in the groin, would be of no use. During the operation the uterus should be supported by the other hand or by an assistant. If inertia uteri should now exist, we should still have attained, by our hold on the foot, security for further progress.

The operation of extraction by the breech might be divided into: 1. Drawing the trunk through the pelvis; 2. Liberation of the arms; 3. Extraction of the head. Traction on the leg should be carefully made, in drawing the trunk down, coincidently with the pains. The trunk should be drawn downward and backward in the axis of the brim, external pressure being made by an assistant, the traction being kept up until the breech was fairly in the pelvic cavity. After the extraction of the breech, the cord should be carefully looked after. Liberation of the arms might become necessary if the pelvis was at all contracted, or if traction upon the trunk had been too rapid, or had not been accompanied by external pressure on the uterus.

The head being at the brim, Smellie's method might be employed in the manner recommended by Schræder, or the method of Scanzoni. In all cases of breech presentation the forceps should be at hand ready for application to the head if it should be necessary. Particular care should be taken during its introduction not to lacerate the cervix. Passing a catheter up into the mouth of the child at this stage would frequently save life.

The subject of the management of breech presentation had been brought to the author's mind forcibly during the past year from the number of cases which he had seen in consultation, in nearly all of which he had found difficulty arising from flexion of the legs on the abdomen, diminishing the size of the breech to a certain extent, and at the same time forming a wedge that became more tightly impacted as the child descended. In all of these cases unsuccessful efforts had been made to extract before he was called, and he was impressed with the advantage of introducing the hand and bringing down the foot over other methods, such as the use of the forceps, the blunt hook, the fillet, etc.

198. PLACENTA.—Removal of the.—In the *Archives de Tocologie* Professor Pajot, the eminent obstetrician, presents his views as to the duty of the accoucheur as regards the delivery of the placenta in ordinary labor and in abortion. He very decidedly rejects the expectant plan of treatment if the placenta be retained, and insists that it be delivered at the earliest possible moment.

In substantiation of this idea he adduces sixty-eight cases in which the placenta was retained and the case left to nature, a fatal result occurring in sixty ; while of one hundred and two cases in a similar condition in which artificial delivery was practised only four died, although a number of them were in extreme exhaustion from hæmorrhage when the operation was performed.

In cases where the uterus is firmly contracted after delivery and any part of the placenta can be felt at the cervix, Pajot thinks the secundines are detached, in which case nature is fully competent to complete the work ; but as expulsion may not take place for twenty-four hours, during which severe pains or serious hæmorrhage may occur, he advises to wrap the cord two or three times around the finger until the hand is in contact with the vulva and then exercise gentle traction, never relaxing the pulling, even if an hour be required, though he has never seen a case that resisted more than twenty-five minutes. This practise is to be observed only in cases where the obstetrician is certain that the placenta is detached, as otherwise it may be followed by inversion of the uterus or breaking of the cord.

While this is probably a safe and easy expedient, it is much more speedy and safe to simply introduce the finger within the cervix and bring down one margin of the placenta ("unbuttoning the after-birth," as it is called in the West,) when gentle traction on the cord will quickly deliver it.

But it is cases where the placenta is not detached that real trouble is found. For these cases Pajot says : "In the hours immediately following delivery you should make all the efforts you can to extract the placenta. Introduce your fingers gently, following the cord, then proceed to detach all of the placenta you can, placing the pieces in proper form after their extraction, so you may know when the removal is complete. If all has not been removed, inject the liquor of Van Swieten into the uterus, repeating the injections while any fragments of the placenta remain.

During the past five years I have been called to see scarcely a dozen parturient women where I have not had occasion to introduce my hand into the uterine cavity either to perform version or to extract the placenta, and I have never in my whole professional life had more than one case of puerperal septicæmia, and that was years ago in a case where the placenta was retained, and I had not the courage to perform my duty.

To what do I owe my immunity from septic trouble ? To absolute cleanliness, and being sure that the whole placenta is obtained.

—*Medical Index.*

199. NORMAL LABOR. *The Management of.*—DR. E. E. MONTGOMERY, of Phila., gives what he calls a creed:

1. The hydrostatic dilating force of the first stage should be

preserved until the genital tract is completely dilated, and imitated when lost.

2. The vital forces of the patient should be economized by the abatement of pain in the first stage, by opium; in the second, by the bromide of ethyl.

3. The uterus should be encouraged to complete the third stage as soon as consonant with the entire discharge of the placenta and secundines. This should occur by expression, not traction upon the cord.

4. The most strenuous precautions should be taken, during labor and subsequent convalescence, to prevent the development of putrefaction.

200. ELECTRICITY as a Galactagogue.—It is suggested by a correspondent in the *Am. Jour. of Obs.* that a collective investigation would develop the actual value of electricity in deficient action of the mammary glands, the report so far being contradictory. The idea is a good one, as we have had the happiest results from electricity in this direction, although one or two friends were not successful in securing equally good effects because of their want of appropriate and efficient apparatus. Static electricity has been used by the reviewer in thirty-seven cases altogether. Of these, twenty-nine patients obtained a full action permanently, six were much improved, and two others were not benefited. The last two were phthisical and anæmic. Three of the six improved had post-partum hæmorrhage, and they were considerably reduced in vigor thereby. We learned that after leaving us they gradually, under the systematic employment of faradism, became restored and nursed their infants the usual time. The other three were obliged to use the bottle in addition to nursing their children.

To be efficient, static electricity must be thoroughly applied by a good machine. A little school apparatus will not do. The application should be made at least once daily—it were better several times each day. After the gland starts into action, massage and faradism will develop it rapidly in the majority of instances. Firm uterine condensation secured by faradism arrests notably the normal action of the breasts, and prevents leakage of blood from the womb if involution is not satisfactory. Correspondents have inquired if the heart was affected by the sparks, and we may here state that such was never the case, nor was there any difference observable in the quality or character of the milk, which, so far as we know, was always normal. The infants in our own cases uniformly thrived satisfactorily.—*Phil. Med. Times.*

201. LABOR Premature, with Atresia Vaginæ.—Before the Paris Society of Gynæcology and Obstetrics, February, 1886, Dr. Doleris reported a case of premature labor in the person of a woman, twenty-eight years of age, who was at the same time the

subject of congenital atresia of the vagina. The woman had menstruated since her sixteenth year. The flow had been very irregular and accompanied with severe abdominal pains. Her hygienic surroundings at this time were bad, and when these were bettered her physical condition improved. At twenty she had a sudden attack of right hemiplegia—doubtless hysterical—coincident with a temporary amenorrhœa; this disappeared with the return of the flow. After the twentieth year menstruation ceased to be painful; but not so the act of coition, which, since the day of her marriage, had been extremely painful.

When Dr. Doleris first saw her she was pregnant; she could not fix the date of her last menstruation, but said she had felt the foetal movements four weeks previously. Several days afterward she had severe pains, and at the same time noticed a flow of a fluid, at first whitish, and then greenish, which stiffened the linen. A digital examination, requiring the use of chloroform for its completion, revealed the following conditions: The hymen, widely perforated in the center, remained as a perfect annular membrane without myrtiform carunculæ. From the vulva inward the canal was an infundibulum of a few centimeters only in length, and closed by a diaphragm. This diaphragm had a concave surface looking outward, and showed an aperture that, during the first examination, proved too small for the introduction of the uterine sound.

The woman was evidently in labor. At the second examination, two days later, this orifice was dilated to the dimensions of a five-cent piece. The margins were extremely thin, and one could feel, with the finger across this opening, the small foetal parts.

The patient was anæsthetized, and Dr. Doleris dilated the aperture with the fingers, but this being insufficient to admit of the extraction of the foetus, he resorted to incision of the constricted part, and completed the delivery. The foetus weighed twenty-seven ounces. The patient made a good recovery. In commenting on the case, Dr. Doleris noted:

1. The possibility of conception in spite of the great degree of atresia which existed.

2. The possibility in a like case of spontaneous delivery.

3. He believes that the existence of a hymen in a vagina affected with congenital atresia is incompatible with the theory of Budin, which holds the hymen to be the termination of the vagina in such cases. There exist, however, many facts which do not allow the speaker to accept this theory.

But recently he had been consulted by a *confrère* in a case of atresia in a young lady eighteen years of age. The hymen was semi-circular and unbroken. He ruptured this membrane and attempted to introduce the finger, but found, at a point about a half inch below the hymen, the vagina completely closed by some obstruction. In this obstructing tissue no aperture could be found

that would admit even the finest probe. The theory of Budin does not explain these congenital atresias, which co-exist with a normally developed hymen.

Dr. Martineau, in the discussion that followed, expressed the belief that, on the contrary, after confirmations which he had witnessed many times at the Lourcine, the ideas of Budin as to the real origin of the hymen are fully established. The perfect continuity of the radiating fibers of the vagina with those of the hymen, quite appreciable to the sight, pleads strongly in favor of the direct dependence of the two organs.

202. HÆMORRHAGE. *The Advantage of Straightening the Uterus in Cases of.*—DR. B. STRACHAN in *British Medical Journal*. Mrs. G., aged 39, had adherent placenta in her three previous confinements, necessitating peeling off from the uterine surface, but made excellent recoveries, with no pyrexia, or undue subsequent hæmorrhage. This last time, however, the placenta was, after some delay and difficulty, removed by expression and traction combined, and she made a good recovery, excepting that there was slight persistent hæmorrhage, which, at the end of six weeks, and after she had begun to move about, became so copious that she was obliged to resume the recumbent posture, and an examination became necessary. The uterus was found large, flabby and anteфлекed, with the os patulous and the fundus tender, and through the anterior wall something was felt hard and nodular; but as it was just a month since she had ceased to suckle the baby, it was thought that perhaps this fresh accession of hæmorrhage might be due to the return of the catamenia; and, beyond freely manipulating the uterus, and pressing the fundus well up, with injunctions to remain lying on the back as much as possible, nothing further was done. The same evening, however, the nurse brought me a substance she had passed about an hour or so after my departure, which would seem to have been one of the cotyledons of the placenta, that had been retained, and which, although loosened, had been unable to escape, owing to the anteфлекion. The placenta was examined when removed, and seemed entire; but it may have been one of the irregular and lobulated sort, in which it is often difficult to be sure that there may not have been a lobule left. The hæmorrhage immediately ceased on the expulsion of the substance, and the patient was soon all right again, the catamenia subsequently being quite regular and natural.

It ought to be mentioned that this patient had, eighteen months previously, and after suppression of the menses for several periods, a severe flooding, which may have been due to an abortion, although the medical gentleman in attendance failed to find any ovum extruded. At any rate, there was very obstinate and prolonged menorrhagia, especially during the menstrual periods,

which was only subdued after long confinement to bed, with the rectification of an ante flexion by a pessary, cold irrigation, sitz-baths, etc., together with iron, ergot and strychnine. Is it possible that the substance above referred to may have been the remains of this abortion that had maintained its hold on the uterus during the following pregnancy and parturition, only to be loosened during the subsequent process of involution? This question is suggested by the apparent entireness of the placenta when examined.

Pædiatrics.

203. *INFANTILE Diseases. Diagnosis of.* DR. BRADLEY. (*L'Union Med. du Canada*).

1. Congestion of the cheeks in children, excepting in cases of cachexia and chronic disease, indicates an inflammation or a febrile condition. 2. Congestion of the face, ears and forehead of short duration, strabismus with febrile reaction, oscillation of the iris, irregularity of the pupil, with falling of the upper lips, indicate a cerebral affection. 3. A marked degree of emaciation which progresses gradually, indicates some sub-acute or chronic affection of a grave character. 4. Bulbar hypertrophy of the fingers, and curving of the nails are signs of cyanosis. 5. Hypertrophy of the spongy portion of the bones indicates rachitis. 6. The presence between the eyelids of a thick and purulent secretion from the Meibomian glands may indicate great prostration of the general powers. 7. Passive congestion of the conjunctival vessels indicates approaching death. 8. Long-continued lividity as well as lividity produced by a motion and excitement, the respiration continuing normal, are indices of a fault in the formation of the heart or the great vessels. 9. A temporary lividity indicates the existence of a grave acute disease, especially of the respiratory organs. 10. The absence of tears in children four months old or more suggests a form of disease which will usually be fatal. 11. Piercing and acute cries indicate a severe cerebro-spinal trouble. 12. Irregular muscular movements, which are partly under the control of the will during the hours when one is awake, indicate the existence of chorea. 13. The contraction of the eyebrows together with a turning of the head and eyes to avert the light, is a sign of cephalalgia. 14. When the child holds his hand upon his head, or strives to rest the head upon the bosom of his mother or nurse, he may be suffering from ear disease. 15. When the fingers are carried to

the mouth, and there is, beside, great agitation apparent, there is probably some abnormal condition of the larynx. 16. The act of scratching or of pinching the nose in children indicates the presence of worms or of some intestinal trouble. 17. When a child turns his head constantly from one side to another, there is a suggestion of some obstruction in the larynx. 18. A hoarse and indistinct voice is suggestive of laryngitis. 19. A feeble and plaintive voice indicates a trouble in the abdominal organs. 20. A slow and intermittent respiration accompanied with sighs, suggests the presence of cerebral disease. 21. If the respiration is intermittent but accelerated, there is capillary bronchitis. 22. If it is superficial and accelerated, there is some inflammatory trouble of the larynx and trachea. 23. A strong and sonorous cough suggests spasmodic croup. 24. A hoarse and rough cough is an indication of true croup. 25. When the cough is clear and distinct, there is bronchitis. 26. When it is suppressed and painful, there is pneumonia and pleurisy. 27. If the cough is convulsive, it indicates whooping cough. 28. Sometimes one sees a dry and painless cough in the course of typhoid and intermittent fever, in the course of difficult dentition, or an attack of worms, under these conditions the cough is often due only to a bronchitis which has been caused by the original disease.

204. LEUCÆMIA and Pseudo Leucæmia, Oxygen in.—M. KINBERGER, in *Nouveaux Remèdes*, relates the particulars of a case in which arsenic having failed, the inhalations of oxygen brought about a rapid increase of strength with diminution of the hypertrophy of the spleen; at the same time the number of white globules were increasing and the red were returning to the normal proportion. At the expiration of several months the disease reappeared, but although the number of red globules had diminished those of the white were not increased. The inhalations of oxygen had effected a complete cure.

205. EXFOLIATION. Dermatitis in New-born Children.—This disease was first described in Germany by Rittenhain. It appears between the end of the first and the fifth week. There is a redness of the skin which commences on the lower part of the face and thence extends rapidly all over the body. The redness is followed by an elevation of the epidermis with vesicles, and in some cases by pustules. The disease is not attended with fever or general discomfort of the system. The prognosis is usually favorable, but there may develop later an eczema or furunculosis. Caspary cites a case occurring in a delicate infant of five weeks. The eruption was present on the abdomen and the buttocks and extended over the body about the second day. The skin was of a bright red color with pustules scattered here and there and accompanied by loss of substance. There

was no fever, but the child complained continually and was unable to sleep. The stools were frequent and of a green color. The author thinks that it is not an example of inflammatory disease of the skin, but an acute disorder of nutrition. *Abeille Medicale*.

206. SCARLET Fever and Diphtheria, a Specific for. DR. C. R. ILLINGWORTH, writes thus to *The Medical Press and Circular*.—I find that the biniodide of mercury is a specific and prophylactic for scarlet fever and diphtheria.

Both are diseases due to the development of germs in the blood, myriads of minute nucleated bodies in active movement being visible by the microscope on examination of the membrane peculiar to each. Hence, I think, the efficacy of the remedy I name.

As all diseases of this nature deprive the blood of a large portion of its hæmoglobin and fibrin, I prescribe the ammonio-citrate of iron with it. Thus:—

℞ Sol. hydrarg. bichlor., 3 iij.;
Potass. iodid., gr. x.;
Ferri am. citrat., gr. xx.;
Syrupi, ℥ ss.;
Aquam ad ℥ ij.;
et solve: fiat. mist.

Sig—One teaspoonful every two hours (for a child of from 2 to 4 years).

As soon as all the membranous deposit has disappeared from the parts affected I give the usual steel and chlorate of potash mixture. As a rule this occurs in from four to five days, but in severe cases it takes ten.

The only and important exception to this rule of treatment is in those cases where the disease is ushered in with vomiting and purging with scanty rash and collapse. In these, which evidence a rapid liquefaction of the blood by the action of the poison, the iron and chlorate of potash mixture should be given at once in full doses every two hours.

207. WHOOPING-COUGH *Carbureted Hydrogen in.* DR. W. T. GREENE, in *Medical Press and Circular*.—Whooping-cough is an acknowledged formidable complaint, of which the etiology is uncertain, though it probably depends on irritation of the pneumogastric by a peculiar poison; it is usually confined to early life, and is scarcely amenable to ordinary treatment.

Authorities are not agreed as to its duration. West restricts it to twenty-one days, or three weeks, but admits that in epidemics of this complaint the symptoms may persist for a much more lengthened period.

Tanner thinks it may last from two or three weeks to as many months, and Charteris, of Glasgow, that it usually terminates in

six weeks, though it may also be prolonged, he says, for two or three months.

Watson says: "The ordinary duration of the disease is from six weeks to three months; but it may run its course, I believe, in three weeks, and it may continue for six months or more."

Grisolle allows three months or more for the complete subsidence of an attack, while Rilliet and Barthez believe that whooping-cough has rarely extended beyond thirty or forty days.

In the north of Ireland, where I once resided, it was popularly considered hopeless to expect a case to get well before the following May, even when the complaint had begun in June ! and my own experience was that seven weeks was about the average duration of an ordinary attack.

All writers are pretty well agreed that uncomplicated whooping-cough of a sporadic kind is not a formidable complaint, and that its treatment may safely be left to the *vis medicatrix naturæ*; but on the other hand, it very frequently is complicated, and sometimes seriously so, with convulsions, bronchitis and pneumonia; while its most formidable sequelæ are emphysema, and more or less chronic affections of the bronchi.

Various specifics have at different times been recommended for the treatment of this complaint; thus Fuller administered gradually increasing doses of belladonna, to which he gave the credit of causing the subsidence of the cough in from two to three weeks.

Sir Duncan Gibb pinned his faith to nitric acid; and other practitioners advised bromide of potassium, hydrate of chloral, or carbonate of iron; while others again extolled the efficacy of inhalations of the vapor of carbolic acid. External counter-irritation was at one time greatly in vogue, and I yet bear on my chest the indelible scars of the blisters produced by tartar emetic ointment, rubbed into me during my personal experience of this complaint. But perhaps the most mischievous of all was the depleting and expectorant plan of treatment, which, it is not too much to say, caused far more deaths than the disease itself, and has now, happily, fallen into disuse.

Soon after settling in London, I remarked that the poorer classes of the metropolis were much in the habit of taking their children, when afflicted with the whooping-cough, to one or other of the gas factories, where, it was popularly believed, they derived no small benefit from inhaling the pungent fumes that necessarily abound in such a situation; but as they also frequently contracted bronchitis, and sometimes pneumonia from exposure to cold after leaving the over-heated precincts of the gas works, this mode of treatment could scarcely be looked upon as altogether satisfactory.

Strange as it may seem, although the clue was thus, so to speak, placed in my hands years ago, a considerable time elapsed before I thought of the plan I have since adopted, and now recommend

for the treatment of whooping-cough. It is simplicity itself, and has the further advantage of altogether obviating the use of drugs in every uncomplicated case of the complaint in which it is adopted. When at last the truth was made plain to me, it was quite by accident, and not by any means evolved, as it should have been, from my own consciousness. One of my children sickened with the disease, which gave every indication of gravity; but after a day or two, the severity of the initial symptoms gradually subsided, and all trace of the whooping-cough disappeared in about ten days from the commencement of the attack.

What was the cause of this unexpected and gratifying result? Simply this: just at the head of the child's cot there was a gas pipe, from which a slight escape of gas had been noticed for some time, but the workman, who had been sent for to repair the breach, did not come, and so the gas continued in very small quantities to escape, and the little boy got rid of his whooping-cough in a marvelously short time.

Here was strong confirmation of the justness of the popular belief in the efficacy of the inhalation of carbureted hydrogen, and I lost no time in repeating the experiment when an opportunity presented itself, and with the like gratifying result.

This, then, is the remedy for whooping-cough. Let the patient inhale frequently, five or six times a day at least, the ordinary illuminating gas, which mainly consists of carbureted hydrogen, though probably the vapors of the volatile liquid carbides of hydrogen that are associated with it, are not without their share in producing the result. Let this be done regularly, and, in from three to ten days, the attack of whooping-cough will be a thing of the past, and that without the painful necessity of sickening the poor child with a variety of nauseous compounds.

The mode of administration is quite simple: procure a piece of ordinary gas-tubing, of sufficient length to reach from one of the gas-burners to the floor, on which it may advantageously trail for a foot or two, turn on the gas sufficiently to make its odor perceptible, and make the little patient stand over and inhale it for a few minutes, as often as convenient; it will not make him cough, but on the contrary, afford him a grateful sense of relief, and after a few inhalations the more formidable symptoms of the disease will disappear, and the complaint will altogether cease to manifest itself after a few days.

208. WHOOPING-COUGH, *The use of Nitrate of Amyl*
in. DR. M. J. LEWIS, in an article contributed to the *Therapeutic Gazette*, commends the use of nitrite of amyl in the severe spasms of whooping-cough. It was administered in combination with ether, the mixture containing one-fourth part of nitrite of amyl. This was kept in a small vial, and with each cough the end of the finger was wetted with the mixture and held close to the child's

nose and mouth, so as to catch the first inspiratory effort. Thus administered, the child practically got nothing but nitrite of amyl. After the commencement of this treatment the child never had another attack of exhaustion, and the severity and length of the paroxysms seemed to be materially lessened, although the child coughed just as frequently, the number averaging fifty in the twenty-four hours, the amyl being given each time.

This treatment was continued for two weeks or more, and during this time the sulphate of atropine was continued in doses averaging the $\frac{1}{100}$ of a grain every three hours.

I am confident of the beneficial effect of the nitrite of amyl in this case, and, although one swallow does not make a summer, I think the drug will be found of use in analogous cases; the tendency to apoplexies of various kinds, and some of the other complications, being also probably lessened thereby.

By diluting the nitrite with ether or alcohol it can be administered in any dose required, and could more easily be placed in pearls than the pure nitrite.

By placing it in a bottle with a small top, that can be covered easily by the finger, it can be almost immediately administered by simply wetting the tip of the finger by inverting the bottle.

209. ABOLITION of Small-Pox.—*The Leicester Experiment.*—DR. C. R. DYSDALE, writes to the *Medical Press and Circular*.—There seems to be a probability that in the near future civilized nations may get rid of small-pox, just as Germany has lately freed itself from hydrophobia and rabies, by hygienic regulations. That same country of Germany has, as we know, also recently nearly got rid of small-pox from her cities and her armies, by means of insisting on vaccination and re-vaccination taking place *with calf lymph* at birth, and at the age of twelve, before children leave school.

Leicester, in England, is celebrated for the stand many of its citizens have taken against compulsory vaccination, but this very stand has forced the authorities of that city into making a most interesting and instructive experiment on the stamping out of small-pox by means of hygienic prevention alone. By a local Act in Leicester, I find that all infectious diseases are, under a penalty for neglect, notified by the practicing medical man to the Medical Officer of the Local Board of Health, who, after notice of a case of small-pox, sends his inspector to the house to persuade the patient to remove to hospital, and also the whole family to enter it as well, as well as the other inhabitants of the house. All these are taken into the hospital for a fortnight for quarantine purposes. No compulsion is used in Leicester, but only persuasion. Notwithstanding this, in almost every case that has occurred, the whole family has voluntarily gone into the hospital. During their absence from the house the bedding is destroyed and

the house is thoroughly disinfected, and the drainage thoroughly examined and seen to.

If, during the 14 days, any symptoms of small-pox arise in another member of the family, the time of quarantine is extended. The consequence of all these excellent measures has been that, although small-pox has arisen several times of recent years in Leicester, it has spread in no single instance, having been nipped in the bud. If, then, the system of Germany, of vaccination and re-vaccination, were combined with that of Leicester, it seems quite clear that small-pox might be got rid of in England, and then be kept out of the country by quarantine at our ports.

210. RECURRENT Headache in Children.—Upon this subject DR. STURGIS in the *Boston Medical and Surgical Journal*, discourses as follows:—It is not uncommon to see children complaining of headache, whose general health is apparently good. Such children usually are troubled with headache more or less severe, recurring at intervals of days and weeks, and each attack lasting from a few hours to a day or more. You will generally find that the child has been subject to these headaches for a year or more before treatment is sought for this particular symptom. As a rule, it will be noticed that the patients are of nervous temperament, that they do not sleep well, that they grind their teeth at night, and frequently suffer from bad dreams and nocturnal terrors. Frequently these children will have a spasmodic cough, particularly at night, even if there be no signs of pharyngitis or laryngeal irritation to account sufficiently for such cough. It may be noticed that the child has difficulty in keeping its hands quiet, that if told to keep standing quietly it will constantly change its weight from one foot to the other. In temper the child is apt to be fretful. Nothing particular is to be noticed about the face with the exception of a peculiar heavy expression about the eyes. This expression is noticed in people with migraine, and also in any depressing illness. Dr. Warner, after careful examination, thinks this expression is due to lack of tone in the orbicularis palpebrarum, giving “an appearance of flabbiness about the lower eyelid; the skin hangs too loose, with an increase in the number of folds, and in place of falling neatly against the lower eyelid as a convex surface, it falls more or less in a plane from the ciliary margin to the lower margin of the orbit, a condition often best seen in profile.” This heavy expression about the eyes is not noticed in all cases of recurrent headaches.

These headaches generally come on in the morning, though the child may be perfectly well on going to bed the night before. The pain is generally localized in some particular part of the head, either side, frontal region or vertex. The pain is severe during the seizure, usually preventing study or play. It is not unusual

for there to be optical illusions of sparks, or bands and spots of color. There may or may not be nausea during the attack. The child generally feels cold, and in winter prefers to lie near the stove huddled up in a chair.

The picture is very like that of migraine in the adult, with this difference; the pain is more apt to be across the forehead, and may be at the base or at the vertex of the skull; there is rarely vomiting or nausea with the attack, and such attacks seem to yield to a treatment which is of very little use in hemicrania of the adult.

Dr. Eustace Smith, in his latest book, considers the headaches identical with migraine. Dr. Warner is inclined to think that these recurrent attacks are but a mild form of chorea. It has been shown by Dr. Hughlings Jackson and by Dr. Herman that in cases of chorea, about seventy-five per cent. of the children suffered from recurrent headaches.

Since 1882 I have seen sixteen cases of recurrent headache. At first, I spent a long time unsuccessfully in trying to relieve the patient by attention to diet and hygienic surroundings; by general tonic treatment and the exhibition of citrate of caffeine and guarana. At last, remembering what Niemeyer calls the "fatal hypothesis of Du Bois-Reymond and Möllendorf," that the pain may be due to excitement of the terminal sensory filaments of the fifth pair by dilatation of capillary blood-vessels of the dura mater, I thought I would use ergot for its effect on the circulation through the arterioles. The results have been highly satisfactory. The longest time required to free a patient from the attacks has been four weeks. In one case two doses of ergot gave relief.

It has been my practise to give M. x. of the fluid extract three times daily after meals, and to continue the treatment for two weeks at least after disappearance of pain. I generally have used ergot alone, but in one case combined it with iron. Dr. Eustace Smith uses strychnine in combination with ergot.

211. SULPHATE of Iron in Catarrh of the Stomach in Young Children. DR. ROTH says, in the *Pester. med. chir. Presse*, that one of the most important symptoms of catarrh of the stomach is the acidity of the stomach and bowels. The vomited matters have an acid odor, and take on a greenish color; it is the same with the contents of the intestine. The parts soiled by these matters, the anus and scrotum, become red. The green color has been wrongfully attributed to the use of calomel. Absorbents have been used to destroy the acids, with tonics to combat the catarrh. But too often these remedies have not responded properly. In such cases Roth uses sulphate of iron, which exerts a multiple and favorable action. It is especially a disinfectant. The stools change their color and lose their bad odor. As an

astringent, the sulphate of iron contracts the turgid mucous membrane and coagulates the albuminoid substances; to have its proper effect, the use of the drug should be continued for several days. Dr. Roth uses the following formula: Sulphate of iron, 0.1 gramme; mucilage of gum-arabic and simple syrup, each 20 grammes. A coffee-spoonful every two hours.

212. DIGESTION of Milk.—DR. M. REICHMANN, *Deutsche Med. Zeitung*, draws the following conclusions from a number of elaborate experiments as to the digestibility of milk in the human stomach:

1. Boiled milk leaves the healthy stomach more rapidly than an equal quantity of unboiled milk.
2. The digestion of boiled milk is more rapidly accomplished than that of unboiled milk.
3. The coagulation of unboiled milk in the stomach is complete in five minutes.
4. The coagulation is not caused by the acid of the gastric juice, but by the influence of a special ferment (milk-curdling ferment).
5. The acidity of the gastric juice is at first due almost solely to lactic acid, and, later in the process of digestion, to the presence of hydrochloric acid.
6. Hydrochloric acid first appears in perceptible amount forty-five minutes after the ingestion of half a pint of milk.
7. For the first hour and a quarter after the ingestion of milk the acidity gradually increases and then decreases, until the milk has entirely left the stomach.
8. The curds of casein in digestion of boiled milk are much softer than in the case of uncooked milk.

213. INFANT Constipation.—This subject has recently been discussed by several correspondents of the *British Medical Journal*.

Dr. W. R. Crossham has generally found much benefit from ordering the infant to be fed every morning with a cupful of gruel, which may be sweetened with treacle or honey. Further help is obtained by giving a teaspoonful of cod-liver oil twice a day, and using friction over the bowels every night with olive-oil on the palm of the hand. An occasional morning draught may also be necessary, such as tinct. podoph., *m* iij (gr. ij ad f 3 j); pulv. ipec., gr. $\frac{1}{4}$; glycerin., 3 j; aquam anisi, ad f $\frac{3}{4}$ ss.

Another physician suggests two or three meals daily of some approved "infant's food." He has found this useful, and has long since dispensed with drugs as much as possible in the treatment of some troublesome cases. If the infant is being nursed, two or three meals a day will be sufficient, and these may be dispensed with as soon as the object is attained, and resumed, if necessary;

but if it be living upon the bottle, the "food" should be substituted.

Mr. E. Gibson Berkley says that the liquid extract of cascara sagrada, combined with minute doses of tincture of nux vomica, and made palatable with a little syrup of lemon or glycerine, will be found very useful. It should be given two or three times a day.

Another writer recommends feeding the infants on well-made oat-meal gruel and milk, in proper quantities, and at intervals. For an infant from four to six months old, he advises half the feeding-bottle full of milk, with the same quantity of oatmeal gruel, to be given every four hours. For the gruel, a teaspoonful of the common coarse but sweet (not bitter) oatmeal is soaked in a little more than a tumblerful and a half of cold water for some hours, say all night, the mixture heated slowly in a saucepan for some time, then boiled for a minute or two, and lastly, strained through a horsehair sieve.—*College and Clinic*.

214. CROUP, Antiseptic Treatment of.—The following is a plan of treatment recommended by M. Renon (*Journal de med. de Paris*). The patient is placed in a well-ventilated room of medium size, the temperature of which is maintained at from 68° to 75° F. Upon an oil-stove is kept a vessel, of a capacity of two quarts, in which the water is constantly boiling. Into this put, every three hours, a tablespoonful of a mixture of salicylic acid, 56 parts; benzoic acid, 112 parts; carbolic acid, 280 parts; and alcohol, 468 parts. The stove is placed near the bed, and the steam impregnated with this mixture is conducted, by means of suitably arranged curtains, to the patient. The patient is kept in this atmosphere until the symptoms have entirely disappeared, and for two or three days after; and, if tracheotomy has been performed, until the wound is closed. A close watch should be maintained over the case, and if any symptoms of poisoning are manifested, the quantity of carbolic acid should be diminished.

215. CUBEBS-INHALATIONS in Diphtheria.—DR. R. COUETOUX, in the *Bulletin Générale de Thérapeutique*, reports two cases, aged six and nine years respectively, of diphtheric croup treated under very unfavorable circumstances, in a cottage with a dung-heap under the window, and containing only one fifteen-foot square room, in which the family lived. When death was apparently imminent, and tracheotomy had been refused as a last resort, he ordered inhalations of steam, tintured with cubebs, of which twenty-five grammes were placed in the boiler at once, the steam being conveyed by tubes to the beds of the children to be inhaled by them. Both made a good recovery. Dr. Couetoux considers that cubebs is capable of being very easily employed in the form of vapors, and that used in this way against the diph-

theria it is more powerful than eucalyptus, glycerin, tar, or the essence of terebenthine. However, he does not urge it to the exclusion of other remedies. In cases where it seems to be too irritating, the addition of glycerin might be advisable. The use of tonics, and rectal feeding when the stomach was rebellious, were also parts of the treatment.

216. PAPAYOTINE in Diphtheria. DR. GUIDO BELL, in *Indiana Med. Journal*.—The idea of removing a diphtheritic membrane by dissolving it is not a new one. Pepsine has been locally applied in cases of diphtheria notwithstanding that the alkaline mucous makes it inert. Pancreatic juice has been successfully substituted. Two years ago the *Wiener Med. Wochenschrift* published a compilation of all the new methods of treating diphtheria and thereby mentioning the above, and especially the effect of pepsine or papayotine.

Lactopeptine dissolves diphtheritic membranes in acid solutions. Papayotine acts similarly, with the condition that the solution be alkaline.

A delicate girl nine years was treated from the earliest stage of diphtheria with salicylate of soda, changing with quinia and with tr. iodine, and afterward sub-nitrate of bismuth locally. The fever was 102 F., going down remarkably until the sixth day. The membranes had disappeared on the tonsils and uvula, but not down in the pharynx. From the sixth day the fever rose again to 103 F., and hoarseness, croupous cough and difficulty in breathing followed. Now I administered, besides quinia, papayotine locally, with a glass tube. I had Merck's preparations—15 grains for a quarter. The powder is coarse, sometimes, but I did not have any difficulty in blowing it to the pharynx and larynx. I applied it once or twice daily myself, and the father of the child did so four or five time more. There were diphtheritic membranes on the epiglottis and larynx. We used about 30 grains in four days for a complete cure. The hoarseness lasted much longer.

In the other cases the membranes were removed within one and a half to three days. Four applications in a day might be sufficient in milder cases. I have a glass tube, about five inches long, with a short piece of rubber tubing attached, then another glass tube, equally long, to be connected with the first one, and in cases where I have to blow to the larynx I have a third tube whose end is closed, leaving an opening or a little canal downward and toward me. The whole apparatus can be carried in the pocket case. The doctor makes his tubes according to his case.

Papayotine affects the diphtheritic ulcer in a way very different from that of sulphur, iodine, caustic and so on; it does not destroy the germs, but it *takes the food from them*. All the germ-killers are either ineffective on account of great dilution, or on the con-

trary dangerous to the healthy tissue. The action of papayotine is both effective and safe, and its use forms a rational treatment.

217. CORROSIVE SUBLIMATE in Diphtheria.—Dr. Werner, medical officer to a circumscribed factory population of about 2000 near Narwa, in the Gulf of Finland, writes in the *St. Petersburger medicinische Wochenschrift* describing the satisfactory results he has obtained in diphtheria by treatment with perchloride of mercury internally, combined with ichthyol in unctions. The disease is very frequent and fatal in the locality, he having attended during the last six years ninety cases, the average mortality of which was between 60 and 70 per cent., the majority succumbing from general weakness when the local affection was passing off or after it had quite disappeared. Last year the type was peculiarly severe. In July, August and September eleven cases occurred, of which no less than nine proved fatal. From the end of September to the present time, however, during which period there have occurred seventeen cases, all of which were treated with perchloride of mercury, and many of which were very severe, there were only two fatal cases, neither of which was seen till a few hours before death. The author's method is as follows: For young children he dissolves a quarter of a grain of the perchloride in 4 oz. of water, for children 6 or 7 half a grain in 6 oz. of water, and for adults three-quarters of a grain in 8 oz. of water. This solution is given to the patients while they are awake every twenty or thirty minutes, in measured doses, so arranged that the quantities made up shall last from twenty to twenty-four hours—*i. e.*, about half a drachm in the case of young children and a drachm in that of adults. When a good deal of sleep is obtained larger doses are given at longer intervals. As a rule, only milk is allowed as nourishment. If considerable pyrexia exists, an enema of from ten to thirty grains of antipyrin, according to the age of the patient, is given, the rectum having been previously cleared out. Externally ichthyol is diligently rubbed in over the swollen gland three or four times a day, the fingers being wetted with water when dry to permit of the rubbing being continued for some time. For the first two days of this treatment the local affection usually undergoes no improvement, but on the third day it begins to diminish and the general condition becomes better, the appetite increasing and the children regaining their wonted spirits. In no case did the author meet with the extreme debility which was frequent in cases treated by pilocarpine, even when the local affection was decreasing. As the patients approach convalescence the medicine was diminished, so that more than six bottles were never required. Complications never occurred, though three of the patients had previously had scarlatina.

218. GERMAN MEASLES.—Kraatsch points out a sign of

"German measles" which is almost pathognomic according to his experience, having been present in every case he met with in one epidemic. This is an enlargement of the cervical lymphatic glands, particularly those over the mastoid process. In most cases there is also an enlargement of the glands of the axilla and groin. This glandular enlargement has never been observed by Kraatsch in cases of common measles.

BOOK NOTICES.

A Manual of Midwifery. By ALFRED LEWIS GALABIN, M. A., M. D. Obstetric Physician and Lecturer on Midwifery and the Diseases of Women to Guy's Hospital; Examiner in Midwifery to the Conjoint Examining Board for England; Fellow of the Royal College of Physicians, London, etc. Illustrated with 227 wood engravings. P. Blakiston, Son & Co., Phila. 1886. Price, \$3.00.

Within the compass of the 753 closely printed pages of this volume has been compressed the material for a complete treatise upon the subject of midwifery, the object of the author as expressed in the preface being to produce a book which should be literally a manual in point of size, and yet should include all that is likely to be required by students or practitioners, an object which he has successfully obtained. In a work of this character there is not much scope for novelty, although in a few instances the author recommends modes of procedure differing from those usually taught. Among these are the choice of the leg to seize in version for shoulder presentation, in which case he advises the seizing of the lower leg or that on the same side as the presenting shoulder, the opposite one being the one usually taken; the use of the serrated hook in decapitation, for which he claims many advantages; the application of a noose to the prolapsed arm; and the use of the rectis in protracted labor with an unreduced occipito-posterior position of the vertex.

In the chapter on premature labor is shown a curious apparatus, a "thermostatic nurse," or warmed box, on the principle of the chicken incubator, for the rearing of prematurely born children, and the reduction of the demand on its heat-producing power, thus greatly adding to its chance for life.

The type, although small, is clear and distinct, and the printing excellent, so that the work may be easily read without fatigue. The illustrations are mostly new and well executed, and we can heartily commend this book as far superior to any manual upon this subject that we have seen.

The Management of Labor and of the Lying-in Period. A Guide for the Young Practitioner. By HENRY G. LANDIS, A. M., M. D. Professor of Obstetrics and Diseases of Women in Starling Medical College; Fellow of the American Academy of Medicine; Member of the American Medical Association; Author of *How to Use the Forceps*, etc., etc. Phila.: Lea Brothers & Co. 1885. Price, \$1.75.

This is a practical treatise upon the conduct of labor, including the preliminary management of the case, omitting all unnecessary details; and as such, even in these days of many books, is welcome. The style of the author is good and readable, so that on taking the book up one is tempted to read on and on until he has it read through. As the work aims to be a guide rather than a history of obstetric practice, the anatomy and physiology of the parts involved, and the mechanism of normal labor, have been judiciously omitted.

In treatment and procedure it represents the latest phase of obstetric practice, although the author, on most of the still disputed questions, is disposed to recom-

mend a conservative course. In the opening chapter he advocates and gives his reasons therefore for the early assistance to the parturient woman, holding that : "It is right to assist whenever the proposed assistance will give less inconvenience, or do less injury to the mother and child than the delay incident to relying upon the natural efforts."

Upon the much disputed question of the use of ergot during labor, he says : "Ergot is the most uncertain drug in the pharmacopœa, so uncertain that although I have often used its various preparations I am compelled to take the description of its action at second hand, never having been able to persuade myself that I had witnessed its effect upon the womb."

The typography and press work are excellent, and the volume one that most physicians will find it to their advantage to possess.

Diseases of the Nose and Throat. By CHARLES E. SAJOURS, M.D., Lecturer on Rhinology and Laryngology in the Spring Course of Jefferson College. Phila. : F. A. Davis, Att'y, Publisher.

These lectures, which were delivered during the spring course of the Jefferson Medical College, are a valuable contribution to the literature of the diseases of the nose and throat, the author including in that class only those diseases which are limited to these parts, and omitting those in which the throat symptoms are merely a subordinate part of a general disease, as in diphtheria, scarlatina, etc. In the classification of these diseases, the author varies somewhat from other writers upon these subjects, describing the affections in rotation according to the progressive pathological changes peculiar to them. In several instances he suggests new terms for the conditions described, which we think a decided improvement on the old name. Thus : posterior nasal pharyngitis, as indicating the location, character and pathological basis, in place of the awkward, post-nasal catarrh.

The style of the author is attractive, plain and concise, as befits the character of lectures to students, while sufficiently fluent to prevent ambiguity. A notable feature of the work are the colored plates, giving "a representation of the normal and diseased parts as they would appear were they seen in a living subject."

The Surgical Diseases of Children. By EDMUND OWEN, M. B., F. R. C. S., London. 12mo., 585 pages, with 4 chromo-lithographic plates and 85 engravings. Cloth, \$2. Phila. : Lea Brothers & Co.

This volume is one of Lea Brothers & Co's. series of clinical manuals.

In a comparatively small compass this book treats of an extensive subject, in a manner superior to the general run of manuals. The illustrations are numerous and good, including four colored plates, showing strumous dactylitis and ulcerative stomatitis, a figure showing extreme rickets, condylomata and hiatus of the bladder ; and myeloid sarcoma and molluscum contagiosum.

The author devotes considerable space to the incontinence of urine, an often-times extremely troublesome pathological condition, ranging himself "upon the side of those unfortunate children, believing that they may be no more able to hold their water than they could avoid coughing if a crumb fell into the larynx." In treatment of this condition recommendation is made to examine, first, the prepuce and urethral orifice, then the condition of the bowels, the character of food, and finally, an examination of the urine.

Diseases of the Digestive Organs, in Infancy and Childhood, with Chapters on the Investigation of Diseases, and, on the General Management of Children. By LOUIS STARR, M. D. Phila. : P. Blakiston, Son & Co. Price, \$2.50.

The lesions of nutrition and disorders of the digestive organs constitute by far the larger proportion of the ailments of childhood, a fact too often overlooked in treatises upon children's diseases, and which renders a work of this character of much greater practical value than many more pretentious volumes. In the opening chapter the author devotes a very considerable space to the investiga-

tions of disease in children, always a subject possessing interest for the practitioner among children, although the author starts off with the statement, which many will be disposed to deny, that "the clinical investigation of disease in children, usually considered so difficult, is, in some respects, easier than the same study in adults." A proposition for which he advances good reasons in the succeeding paragraph. Affections of the stomach, intestines, liver, and peritoneum complete the second part.

In the third part is treated the general management of children, including feeding, bathing, clothing, sleep, and exercise, which is one of the most interesting, as well as the most important sections of the book. The style of the author is clear and compact, the eminently practical character of the work not allowing for much grace of manner.

Manual of the Diseases of Women ; being a Concise and Systematic Exposition of the Theory and Practice of Gynecology. By CHARLES H. MAY, M.D. Phila. : Lea Brothers & Co. Pp. 342. Price, \$1.75.

This manual of the diseases of women is mainly a compilation from the writings of such distinguished gynecologists as Emmet, Thomas, Mundé, Playfair, Hewitt, Tait, etc., condensed as an aid to the student or general practitioner, who desires to refresh his memory upon these subjects, for which purpose it is well adapted, being condensed down to almost the brevity of a dictionary. A style well adapted to study, but not offering many inducements for reading. The definition, etiology, pathology, symptoms, differential diagnosis, course and treatment of the various diseases are concisely given. The typography, press and paper are excellent, and the physician will find it a valuable addition to his working library.

Elementary Principles of Electro-Therapeutics, for the use of Physicians and Students, with 135 Illustrations. Prepared by C. M. HAYNES, M.D. McIntosh Galvanic and Faradic Battery Co., Chicago. Price \$2.00.

As a therapeutic agent, the value of electricity in competent hands has been so often and so clearly shown, that a reference to the subject would be unnecessary, were it not for the fact that in the hands of incompetent persons, electricity may be productive of more evil than good results. For the successful use of this force, its application to the treatment of disease should be as carefully studied and as thoroughly understood as that of any other force or substance of the materia medica.

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The only defect we find is a little excess of illustration of the McIntosh batteries and electrodes, but as the electrical apparatus made by that company is reliable, it may not be amiss to set forth that fact. The book, as a whole, is well printed and bound, and well worth the price asked for it.

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Gynæcology.

225. Laceration of the cervix Uteri.—Dr. R. T. SMITH in the course of a paper published in the *British Gynecological Journal* says, to judge the truth of the assertion “that the sundering of the cervical tissue is the cause of all the ailment,” and to judge of the utility and success of the treatment recommended, it will be necessary to refer to the various forms of disease in which it is said to play so important a part. Another question also must be answered. Is this patulous condition of the os, which some seem to consider so trivial, ever physiological and a necessary sequel of labour, or is it not always pathological and indicative of the fact that a diseased condition obtains? I have very frequently called attention to the fact that in multiparæ no trace of labour can be seen in the uterus beyond a slightly increased diameter of the os uteri, accompanied, as a rule, with some flattening of the edges, and not unfrequently with the roundness characteristic of the virgin os remaining. Not many weeks ago I saw a lady who had had fifteen children, all easy confinements, and the os uteri did not exceed one-third of an inch in width, and the cervix was perfectly uniform and smooth. So true is this position that I need hardly remind you that in a famous medico-legal case a few years back, where, to establish the fact of a uterus having borne children was of the first importance, it was accepted in the Obstetrical Society as an axiom, that absolute reliance could not be placed on the condition of the cervix and os; the sure sign of delivery must be sought elsewhere. Again, a virgin uterus long the subject of catarrh will often present a swollen cervix and some degree of flattening of the edges of the os uteri. We may therefore assert pretty safely that the parturient act, when normally and healthily accomplished, is unaccompanied by the rupture of a single fibre in the genital tract.

That in the great majority of confinements it is otherwise no one

doubts. Bennett, Simpson, Barnes, Tilt, Emmet, Pallen, &c., are all at one on this point, and the difference in opinion and judgment only begins as the lacerations and accompanying phenomena are considered in the relation of cause and effect.

Sir James Simpson lays down the following propositions:

(1) Lacerations of the cervix, to a small extent, are very common, and much more common than is generally supposed.

(2) They are not necessarily the result of mismanagement, but occur in spite of all modification of management; and also when children are born without any interference whatever.

(3) Slight lacerations of the edges of the os, and of the mucous and middle coats of the cervix, are found in the autopsies after natural labours, and particularly in primiparæ.

(4) Proof is found in the irregularities in the shape of the cervix, in the cicatrices and contractions which are found radiating from the cervix into the vaginal walls.

The chief diseases in which the value and bearing of this sign have to be estimated are: Subinvolution; various local hypertrophies affecting the cervix, either as whole or in either of its segments; and diseases known as chronic inflammations with exudation.

(1.) *Subinvolution*.—While in the normal state the uterus will, in the course of four to six weeks, decline in weight from $1\frac{1}{2}$ lb. to 2 oz. or 3 oz., and resume almost its previous size. In this disease we find, months after confinement, or even as late as two years, the organ excessive in bulk, with a patulous canal so open as sometimes to admit the finger. The cavity of the body is equally dilated, and the walls are not in contact. The lips are swollen out in lobes, which are separated by the scars resulting from the slight rents during labour. The os is soft and flabby, with abrasions of the epithelium, sometimes very extensive.

This, omitting mere symptoms, is a quotation from an eminent English author, and the causes of the conditions are enumerated as accidental fevers, flooding during labour, perimetric inflammation, displacements, arrest of lactation, wilful or the result of lesions, &c. Emmet states that for many years he has met with few or no cases of subinvolution that were not due to laceration. I have treated many, and have found that by intrauterine applications, the use of quinine and strychnia, they have rapidly improved. In others of long duration and most obstinate to ordinary means, the repair of the cervical tear has quickly wrought a cure.

But the subject demands a more minute analysis. What is the pathology of this big uterus? The causes enumerated may be predisposing, but they do not explain it. The uterus, as a whole, is enlarged and tumid—sometimes pallid (i.e. in chronic cases), sometimes gorged with blood, in recent cases.

Around the os is an area varying in size which is bared of its epithelium, and looks pulpy and granular by reason of the projecting

red, angry-looking villi of the mucous membrane, all bathed with viscid mucus. The cervical canal is in a similar position. Its rugæ are prominent and intensely vascular; the surface easily bleeds on account of the thin layer of epithelium which covers the vessels. The canal is patulous.

What is this condition? Dr. Barnes says 'it is a combination of gangrene and ulcerations. The first step is traumatic, the mucous membrane being killed by the bruising it underwent and by its partial severance from the deeper textures. It is remarkable that the area of epithelial demarcation is always limited. There is a more or less indented line of demarcation where the epithelium stops abruptly at a distance of about half an inch from the os. This line actually represents the extent of the mucous membrane which fell under the crushing. The fissures seldom or never go beyond.' What can be plainer? He goes on to say: 'The process is one of repair; the easily bleeding surface is trying to heal, and it may take weeks or months to recover its normal investment of epithelium.' But all this time another process is going on, for from the gorged vessels exudation is being poured out, and he quotes from an article on inflammation in Druitt's book: 'Exudations cannot remain dormant; they develop or degenerate, and in this case the tendency is to develop, and the consequence is hyperplasia and hypertrophy. The cervix becomes dense, and elongates in various directions.

We are thus led to the very heart of the question. It is not a dispute about words; far from it. One says it is ulceration, another says it is inflammation. Dr. Emmet and his coadjutors say it is a wound; it is a lacerated wound—a sundering of tissues. And I entirely agree with them. In the early stages it is a wound trying to heal by granulations; in the later stages it is a wound that has healed in an unfortunate manner, its opposing surfaces having become covered with cicatricial tissue. The pathology of the healing of wounds clears away the mist that has so long enveloped this subject, and the surgeon's skill in dealing with wounds will bring the aid that is needed. When we recognise the fact that union of a wound by granulation is identical with the process of repairs of ulcers, we are not surprised at the conflict of opinion; but while no art is required to recognise a sore on the skin, it is not nearly so easy to distinguish exposed follicles and crypts and papillæ and mucous membrane granulations from ulcers. But surely the causation and treatment widely differ in the two cases.

Imagine for a moment a lacerated wound of the forearm left to itself—the edges dragged apart and irritated by the movements of the muscles, the surfaces covered with granulations and eventually healing with puckered scars; and all this is but a faint picture of a torn cervix, with its enormous blood supply and the irritations to which it is subject. As a rule antero-posterior lacerations heal well, but when lateral, and especially if on both sides and extending through

the course of the cervix, a condition arises which defeats repair. By its mere weight the uterus tends to fall; by the impaction of the external surfaces of the labia against the vaginal wall the flaps separate through the rolling out of the tissues; the papillæ of the lining of the cervical canal are irritated and enlarged, constituting 'erosion,' and active hyperæmia of the whole organ is kept up. No doubt by rest and the use of a pessary, hot water, iodine, and other general measures, this erosion may be temporarily healed, but discontinue the treatment and every symptom will return, from the attrition of the surfaces of the tear and from the maceration of the same by the discharges, and especially if retroflex, which occurs in 80 per cent. of the cases, obtains. Moreover, the cervix is to the uterus what the spine is to the body, and by its restoration the tonicity of the uterus is vastly strengthened. Again, by removing the scars and curing the erosions the reflex irritability of the uterus is pacified, and the fluxion to the uterus and its appendages consequent thereupon is done away.

(11) *Hypertrophy of the Uterus*.—Our inquiry is in respect of partial hypertrophy, and therefore the cases of general hypertrophy, where the whole of the uterus is equally involved and which occur in single people and in nulliparous married women, do not concern us, nor do the cases of elongation and stretching of the cervix where apparently the uterus may be five inches long. Of such I have seen two in single girls, æt. 19, and which in two or three weeks' time were restored to normal length by simple treatment.

Again, in flexions of the uterus, we find enlargement of one lip on the same aspect of the flexion.

I have suspended diagrams illustrating the cases under consideration, and by the authors they are all designated hypertrophy of the uterus. My contention is they are essentially cases of laceration.

The history is in reality a continuation of the same symptoms as already given of subinvolution, and is attributed by authors to persistence of the hyperæmia, congestion, and subacute inflammation of the cervix following labour. The so-called hypertrophy is therefore secondary, and may take months or years in its development. Some amount of cervicitis and endometritis almost always coexists, with dysmenorrhœa possibly, with menorrhagia very frequently. There is prolapse of the whole organ, and generally retroversion. Notice particularly the frequent mention of eversion of the labia, occasionally so extensive as to expose the palmæ plicatæ and ridges of the arbor vitæ, a condition which I maintain a physical impossibility unless the cervix is torn. The tear is the cause, the hypertrophy is the natural sequence.

Now Dr. Barnes states distinctly that the first factor is arrested involution, and gives this order of development: hyperæmia, endometritis, interstitial fibrinous effusion affecting the cervix. The external tissues are to some extent fixed by the bladder and fundus

vaginæ, the innermost tissues, being soft, swollen, and gorged, bulge out at the os tincæ. And I wish to emphasise his observation that to the traumatic condition of the cervix during labour we must attribute the fact that the involution of the cervix is more disturbed than that of the fundus; hence arises a chronic subacute inflammatory process and hyperplasia which, if not ulceration, is distinguished by being bared of epithelium and covered with angry projecting villi. I must not pursue this line of thought any further. How this new growth is most active at the inner part of the cervix, necessarily so, and causes eversion; how that the uterus, being congested, is heavy, and therefore causes descent; how this irritates the vulva, provoking straining efforts; how there is consequent prolapse, needs no description.

By numerous cases I can attest that by healing the tear all the other conditions will improve, and with a rapidity which is often most surprising. Take an illustration.

A patient, æt. 25 years; one child fifteen months ago. At the end of a month the uterus was prolapsed externally, and she came to me wearing a Zwanck; the uterus was $4\frac{1}{2}$ inches long. The cervix was torn on both sides, and on the right there was evidence that originally the tear extended into the vaginal wall. Both labia were everted. Perineum also torn. In a month's time the uterus measured $2\frac{1}{2}$ inches, and restoration was complete.

I may add that of the cases I have done three have had children subsequently, one having had two children, and in all the cervix remains intact to a great extent. The doctor of the one who has had two children writes; 'She had a good time. I was not with her more than an hour; the os dilated nicely, the placenta followed quickly, and she had no loss. In my own practice I have seen the genesis and results of three marked cases of laceration in primiparæ, but the cause was not a previous inflammatory rigidity.

My purpose to-night being chiefly to state Emmet's views and confirm them by observation, I will simply mention that while Dr. Bennett commends the Americans for enforcing our attention to the frequency and importance of laceration, he insists that the lesion is really due to previous disease which caused rigidity of the cervix; consequent on that rigidity, the use of the hand or of forceps, or excessive rapidity of the labour, produces the tear. He attributes this rigidity to hypertrophy and induration, the result of erosion and inflammatory affections prior to labour. The answer to this position could only be found by careful observation of primiparæ. Nevertheless he admits that in chronic cases where there is a deep fissure and thick hard lobes which can be everted, the plastic operation is preferable to prolonged treatment by caustic potash, but in milder cases, by the use of NO_3AgI emollients, the hypertrophy softens, the edges become clean, and only a notch remains, and no operation is required. In this opinion he is in accord with many English physicians. It

cannot be denied that the boundary line between a patulous as associated with cervicitis, endometritis, and some amount of erosion—and all this possibly I quite admit in single people and between milder cases of laceration—is not always so easy, and will form the line of battle in men's opinions on the subject. Yet my judgment is, given a laceration, repair it. It is not so simple a matter always to detect a laceration, but wherever the labia cervicis can be rolled inwards, that cervix is surely torn. But the scope of this paper scarcely allows any reference to the numerous and important details of the subject.

Another line of inquiry there is which to me greatly enhances the value of this method of cure. Compare it with the alternatives. (1) For safety, for quickness of cure, for good results, for permanence, it is infinitely preferable to the torture of caustic potash and vinegar. The destruction of the induration by caustic means, as a rule, three months in bed, with considerable risk of cellulitis; by trachelorrhaphy five or six weeks is ample. Think, also, how painful caustics are, even if Paquelin's cautery is used. I have done one case without anæsthetics, the patient complaining but little of pain, and I am informed this is a very frequent practice in America. (2) Professor Martin, of Berlin, practically admits Emmet's teaching, for he amputates the cervix and then brings the edges of the mucous membrane together across the stump. (3) Then there is Thomas' plan of slicing off a superficial layer of the hypertrophied lips in the hope of causing atrophy of the remnant; e.g. tonsils. But these two are neither so rational nor effective.

And, lastly, we have the almost unanimous verdict of gynecologists that while in the vast majority of cases where there is a large os and a tender granular mucous membrane, these can be toughened and apparently healed by rest, douching, caustics, &c., yet in a few weeks the patients are as bad as ever, so much so that an eminent writer has said, 'If no better in two months, let them alone and give up meddling.'

I can only say for myself, on the evidence of many cases, the repair of the laceration completely cures; the uterus lessens in bulk, flexions improve most notably, and the pain disappears.

Beyond this series of uterine disorders marked by enlargement of the womb, by a gaping os, by erosions with copious, debilitating, intractable discharges, there lies a wide field for clinical observation in cases which could fairly be classified under the head of painful uterine diseases, and I am not sure that it is not to this field the new pathology will bring its richest boon.

The association of neuralgia and other neurosal affections with uterine disease is universally admitted; not only pain in the uterus and ovaries, but in various regions of the body. I should weary you by recapitulating them; headache, beating in the head, pruritus of the vulva, often severe pain in the eyes, and more particularly pain in the hip; one expressing it, 'pain like labour through the hips;' another,

'my hip aches so;' again, a central hypogastric pain with intolerable bearing down and gnawing pain in the pubic bone; occasionally there is the most exquisite tenderness of the cervix, and a vaginal examination or sexual intercourse will cause exhaustion and faintness sometimes persisting for hours. Ovarian symptoms are wanting as a rule, except when there is a concomitant inflammation of the pelvic structures and uterine appendages. Time forbids any reference to laceration of the cervix as a cause of chronic and recurring pelvic inflammation, but the question is brimful of interest.

As regards the menstrual flow we find in some a history, first of menorrhagia gradually lessening in degree and ending in persistent anæmia, while in other cases menstruation is protracted late in life and is associated with much suffering.

Now the explanation of all this suffering is said to be found in the fact that the wound has healed by granulation, a plug of dense cicatricial tissue filling up the gap, and consequently, as Emmet remarks, it is not simply the cases where the os remains wide and gaping, with tender nodules interspersed in it, that require surgical relief, but cases where the cervix may be comparatively smooth and uniform, but excessively sensitive. Every one must be familiar with the vast relief that is often conferred temporarily by leeching such cervixes, by iodine, and by caustic. Let us, however, scrutinize the subject more closely. Consider that the tissue in the scar is hard and cicatricial, that the hypertrophy surrounding it and the use of caustics add another element of hardness, and the total mass may be as hard as cartilage and in itself it is almost bloodless; such dense blocks I have repeatedly shown to spectators. Now there is no lymphatics either in granulation tissue or in scars, so that all confidence in resolvers as being curative is misplaced; they do relieve any congestion that surrounds this block, but as the time approaches that by a law of nutrition the uterus should enter on a period of quiescence, here is a foreign body that defies all absorption and so becomes a source of irritation. By parity of reasoning we can understand how it is a source of pain. I have operated on several patients at ages ranging from 47 to 50, where there has been tenderness, menorrhagia, and various neuroses, with almost immediate and permanent relief. Questions of most vital moment crowd around this pathological position. What about cancer? While I cannot admit laceration by any means as the sole cause, I have been startled by the number of cases I have seen sprouting on everted labia, and with Dr. Goodell, I operate on all cases of laceration, if there is any family history of cancer. If there is any truth in the doctrine of irritation, here surely is a most conspicuous example—an ill-conditioned sore exposed to frequent irritation and varying blood-supply, and as a rule, associated with a low condition of general health.

This paper is already too long, and it remains only to say that it is a fundamental rule that in neuralgia the cause of irritation must be

sought and removed. And I can only commend this probable causation to all for careful observation and subsequent recording of their experience of treatment directed to this end, removing the cicatricial tissue and dense plug, thereby getting rid of a constant source of provocation.

226. MALIGNANT Colloid. DR. WM. GOODELL, reported in the *Journal of the American Med. Ass.*—These abdominal tumors will often bother you very greatly in diagnosis. I could, of course, give you hard and fast lines, such as you read in the books, but even then you would very often go wrong. Some years ago I was positive that I had to do with an ovarian cyst, and when I operated it proved to be ascites. On another occasion when I was equally sure of a cyst, after working for half an hour I found that I had to do with a renal cyst. Now by vaginal examination I have detected carcinoma, which I believe has extended upwards until there is, so to speak, a saddle-bag carcinoma lying over across the spinal column, pressing on some of the large blood-vessels thereabouts and giving rise thus by interference with the circulation to the fluid in the abdomen. Now what would point to ascites and what would point to ovarian cyst? In the first place we must make this examination under great disadvantages, owing to the distended condition of the abdomen. But we note that the abdomen is less prominent, less distended in its most prominent part than it would be if the fluid were encysted. When the fluid is free to move, it sags down more or less to the sides, while if encysted it would project more prominently in front; when free it bulges more on the sides. If the fluid is ascitic we will have resonance in front, because the intestines, containing gas, will float on the surface of the liquid; but look out here, for if the accumulation be very great the intestines may not get all the way up, hence we may have as we do have here, dulness at first, but on deep pressure we secure resonance. Also there may be adhesions that will bind down the intestines, and in this way we will also have dulness. If ascitic we will have dulness in the flanks, for here the fluid comes to the surface. It may happen that in ovarian cyst the intestines will get in front of the cyst, and in such an event we will have resonance, so that you see how much confusion we may have in arriving at a conclusion.

The crucial test will be in making an incision and drawing off some of the fluid. Before making the incision I will deaden the sensibility of the part by applying to it a piece of ice, on which I have put some salt. I choose the linea alba as the site of the incision, because it is free from blood-vessels; laterally we might wound the epigastric artery or some of its branches, and this accident is by no means a trifling one. But you cannot always select this point, and the rule is to tap wherever indications demand without reference to the blood-vessels. When this case was previously tapped, after a time the fluid seemed

to be arrested and it ceased to flow through canula, which caused the gentleman who had the case in charge to think that it was an ovarian cyst; well, now, there may be a cyst here, but if there is I am of the opinion that there is also ascitis. I have seen cysts that were caused by, or at least consecutive upon, sarcoma; but they do not, as a rule, accompany carcinoma. The fluid of ascitis is usually clear and of a straw color, but it may be slightly tinged with green; that from an ovarian cyst is generally darker; it is often chocolate-colored; but here again I must caution you, for we may have blood in ascitic fluid, when it will be somewhat darker in color.

Now I have introduced my trocar, but the fluid comes through the canula only in drops; what is the matter? I must have struck a solid portion of the growth; there is some bleeding, but the flow of liquid is greatly obstructed. There must be here a growth of great magnitude, for you see I introduced the penetrating needle some distance above the pubes. Now I move the canula about and I get a somewhat lighter fluid. There certainly must be ascitic fluid around this growth; the needle was passed into the growth and now when I move it around I get the surrounding fluid. This fluid is so thick, so glue-like, that I am inclined to think that we have here a colloid. If you cannot withdraw this fluid with the aspirator or by the trocar, what can you do? Why, if you consider it wise, make an incision and turn it out, but it would hardly be wise to resort to such a procedure in this case, when we know that the woman has carcinoma. Now you see this fluid oozing out when I remove the canula; it will continue to ooze for some time. When she coughs the fluid flows more freely, this is because the coughing throws the liquid in front of the growth, and it thus more readily escapes. It is always best when you start to remove a collection of fluid to remove it all before you stop, and not leave any to ooze out. That should be the rule in all tapplings, but especially in the case of ovarian cysts, for if the fluid is allowed to ooze out it may set up a severe inflammation, and very serious results may ensue. Therefore I would condemn as a bad plan that, which you will often hear recommended, of inserting a hypodermic syringe into an obscure tumor and removing some of the fluid for examination. Through this very minute opening sufficient fluid may escape to cause a fatal peritonitis. It is not so important where the fluid is ascitic, but it is a good and safe rule to follow in all cases of fluid accumulations, for even in ascitic collections the oozing fluid may light up an erysipelatous inflammation at the point of emergence.

Of course it is not always that you can completely evacuate a fluid collection, but when you can, always do so. In the case of a thick colloid it is obviously impossible to do so. I prefer always to avoid tapping for ovarian cyst, preferring greatly to perform the operation of ovariectomy. Remember when you do tap, first to benumb the surface with ice and salt; second, to select the linea alba, if possible; and third, if you happen to wound a blood-vessel, to be prompt in

your measures for relief. I prefer to use the aspirator rather than the trocar, for this very reason, that I think there is then less danger of wounding the vessels. If, an hour or two after the tapping, the woman is pale or weak, looks as though she were losing blood, you have grounds to fear that you have wounded a vessel in the abdomen or in the sac. Then pick up a bunch of the abdomen about the point of incision, transfix it with a long needle and pass around this a figure of eight, on the supposition that the vessel that has been wounded is in the abdominal wall. But suppose the symptoms of hæmorrhage continue after this procedure, what must you do? You must then conclude that you have wounded a deep vessel, from which internal hæmorrhage is taking place, and the only thing you can do is to proceed at once with the operation.

To go back to my remarks about tapping, there is one exception to the otherwise absolute rule not to tap in ovarian cysts, and that is to be found in cases of women who have heard that some neighbor has been greatly relieved by tapping; such women will not listen to the radical operation, will insist upon tapping, and in such cases you will have to yield to their importunities. Still further, when the tumor is flaccid and there is very marked fluctuation, from which you infer that the wall of the cyst is very thin and it is not pulled down; you may tap under the assumption that it is a parovarian cyst, located in the broad ligament, on one side or the other. These parovarian cysts are not uncommon, and tapping is a perfectly justifiable method of treating them, for in fifty-five per cent. of the cases there is no return. I really believe that in the aggregate the tapping of ovarian cysts is a more fatal performance than is the operation of ovariectomy. Take, for instance, one hundred cases of tapping and an equal number of ovariectomies, and I believe we will have a greater proportion of deaths in the former. This is due to the fact that you cannot always tell beforehand what kind of a fluid you have to deal with; suppose you have a colloid cyst and you let some of this fluid out into the peritoneal cavity; you will be very likely to have a fatal peritonitis. Here is some parovarian fluid that I removed in 1881, clear and limpid, it is almost like water; but in ovarian cysts the fluid is darker in color (chocolate-colored), and more irritating to the peritoneum. Again, the danger is not only from fatal inflammation, but if it does not go that far it is at least very likely to cause annoying adhesions. Again, it is not uncommon to have one large cyst and grafted on to this numerous baby cysts. In the radical operation these babies are so small that they do not complicate the removal of the parent cyst, but it is a fact that when you tap and remove the fluid from the mother cysts, these babies take on rapid growth, and when you finally come to operate a much larger incision will be required to remove the disease than would have sufficed in the first instance.

To go back again, I would say that wherever we have a wound of the surface from which blood or bloody fluid trickles, we are then very

likely to have erysipelas. In my younger and less experienced days I was wont to resort, in cases of dropsy from heart or kidney disease, to a method that you will see every now and then recommended, of puncturing, with a bistoury, the dropsical limb. It was supposed to let the fluid drain away and thus afford the patient relief. So it will; but in very many cases, it will cause erysipelas of the part; hence I have given up this practice. Another serious objection to all kinds of tapping is that the fluid re-accumulates very rapidly. I have seen it re-accumulate in an ovarian cyst, after tapping, at the rate of more than a pound a day, which you must remember represents an immense waste of strength, for this fluid is very rich in nutritive material. So, in conclusion, I would again say that, in dropsies, it is best not to tap.

227. UTERINE Prolapsus, BY DR. TILLAUX, as reported in *The Physician and Surgeon*.—Uterine prolapsus is one of the most common troubles that you will be called upon to treat, and one also that presents certain difficulties in diagnosis and also in treatment. The patient whom I take for an example, is a woman of thirty-three, who has always had good health, had her first menses at thirteen, and has ever since been regular. Three years ago she had a child, followed by a regular return to normal health except that she did what so many of our women do, that is, followed an old rule, she got up on the ninth day, and went to her usual hard work about the house. You know my habit of impressing upon our patients the danger of getting up on the ninth day, as I consider it the commencement of most of the uterine diseases.

Three months after, the woman perceived that she had a small tumor protruding from the vagina. This tumor increased little by little until it became as large as a closed hand, and when she had walked a little distance during the day it would come out, giving her pain in the lower belly, trouble in urinating and a leucorrhœa that was quite abundant, caused by the excoriations that were produced on the neck of the uterus. You had only to look at the tumor to find that it was the uterus and that it was a case of what is called "falling of the womb," "prolapsus uteri" or "procidence uteri."

Let us study this trouble. First of all what is the disposition of the organs contained in the pelvis of a woman who has this prolapsus? As regards the vaginal walls, it is easy to understand that as the uterus descends it drags with it, first the anterior wall then the posterior. This descent going on, the walls are soon like a finger of a glove that you do not quite pull off, so that the moment that the womb has arrived at the end of its fall, the vagina forms a sort of sac which contains the uterus. Now, what happens to the bladder? The posterior face of that organ is so closely attached to the anterior face of the vagina and the uterus, that it cannot escape the influence of the traction, so that the vaginal walls that are dragged down by the uterus,

drag in their turn the bladder. It is also turned inside out as it were, its summit is directed below, and it is part of the anterior wall of the tumor that you saw. As to the urethra it follows the bladder, and it is displaced so that the meatus urinarius in place of looking downwards, and the urine at the moment of micturition is projected on the lower part of the belly and causes excoriation of the parts. Now what happens behind the uterus: The peritoneum, as you know, adheres intimately to the posterior face of the uterus and it is prolonged down on to the superior third of the posterior wall of the vagina, so that it also is drawn down with the other structures. This *cul de sac* may contain some folds of intestines, which can be felt behind the uterus. The recto-vaginal sac doubles up much more easily, so that the rectum generally remains in its place, but in some cases it loses its suppleness and the anterior wall of the rectum is drawn forwards and down by the vaginal walls, so that the tumor contains, from before backwards: the bladder, the uterus, the peritoneal *cul de sac*, and sometimes a small portion of the rectum.

What are the influences that produce this prolapsus? It is caused by the relaxation of the uterine ligaments, and the augmentation in volume of that organ with the dilatation of the vulvo-vaginal—all these alterations are found after confinement;—add to these modifications of the genital apparatus, fatigue, and you have the cause of the trouble. Marion-Sims showed that it always begins by the anterior or the vesico vaginal *cul de sac*.

Can you mistake it for other kind of tumors? Not easily, for once you see the orifice you will know that it is the uterus. A uterine polypus has no orifice and besides the vaginal *cul de sac* remains in cases of polypus and they disappear in the fallen uterus. This sign alone is of great value; so that your diagnosis is easy. There is another question that must be decided. When I introduced the hysterometer into the uterine cavity I found that it measured thirteen centimeters. Allow one for the walls and you have a uterus of fourteen centimeters, and you know that a normal uterus will not measure more than seven centimeters in a multiparous woman, so that we must ask ourselves if this is an ordinary case of prolapsus, or if it is the trouble described by Hugier as a hypertrophic lengthening of the os uteri. The means of getting a correct diagnosis are these: You have only to try and see if you can reduce the tumor and in the case of ordinary prolapsus you will be able to do so, but in the other trouble you will not. You may make the patient suffer and that is all. In our present case the reduction was easy, and indeed, when she remains in bed, the uterus remains in its place. It is only when she walks about that it comes down and gives her pain; otherwise she has no suffering. We are then sure that it is a case of prolapsus and we can readily understand what has happened. When she was confined three years ago there was an incomplete rupture of the perineum; she got up on the ninth day and the uterus, not having time to return to

its normal state, remained enlarged and finished by distending the vagina which could not offer any resistance; thus there was augmentation of the weight above, and diminution of the resistance below.

What can we do in such a case? The indications come from what I have said: First of all diminish the volume of the uterus, next increase its means of suspension. The first indication would not be enough as the uterus has lost its place, as it were, in the pelvis; the second is the one to attend to, but the various means of support do not hold,—an operation is wanted. What shall it be? Professor Le Fort proposed to make a partition in the vagina so as to have a sort of double passage. One can also practice vulvaorrhaphia which is intended to diminish the dimensions of the passage and give it back some resistance. The latter is the operation that I will perform. It will allow the woman to wear a pessary which by the narrowing of the vagina will remain in its place, and keep the uterus in position. I shall proceed as follows: I will make an incision of three centimeters long on each side of the posterior commissure of the vulva, and detach the mucous membrane to about two or three centimeters high, taking care not to wound the "bulbus vestibuli;" dissecting them from above downwards on each side and raising the flap of mucous membrane which will form a sort of apron. This I will cut off, although certain authors advise keeping it in place, but it has no advantages. Having done this, I then will bring the two bleeding parts together with Emmet's needles and then apply an antiseptic dressing to the wound. The knees of the patient will be kept together so as to prevent any drawing away after the operation.

I will order her to be kept in bed a month and I hope the uterus and its ligaments will renew their position and strength.

228. CURETTING Uterus. DR. TERRAILLON in the *Bulletin gen. de Therapeutique*.—The disease which most requires the use of the curette is cancer of the uterus. This disease appears, from the clinical point of view, under three forms: (1) the vaginal portion of the cervix alone is invaded by ulceration or the growth of vegetations; (2) the cervix is invaded to its entire depth and in its canal; (3) or the primitive seat of the disease is in the body of the uterus, and we have to deal with cancer of the cavity. In the first case scraping ought not to be done, but total ablation of the cervix must be resorted to. You have a choice of instruments: scissors, thermocautery, galvanocautery, ecraseur, etc. The galvanocautery is the best. In any case complete ablation is a good operation which, although it does not prevent a relapse, singularly retards the development of the cancer. In the second case, where it is impossible to go beyond the extent of the disease, you must not think of performing ablation of the cervix. It is here that curetting is indicated. In the third case, the rarest variety of uterine cancer, where it affects the canal, whether developing in its depth or in the neighborhood of the cervix, there

are, from a surgical point of view, only two things to be attempted: the total extirpation of the uterus or curetting. The first may be a radical operation, the second in every case is only a palliative measure. Let us see of what it consists: curetting the uterus means taking away all the diseased parts until you come to healthy tissue. "And if you ask me how you are to distinguish the morbid from the normal tissues—where, in fact, is the limit of the operation, where must you stop, I reply, it is a very simple matter. In proportion as the cancer affects the uterus, it softens it, alters its structure, disintegrates its resisting wall, and if, to the touch, all the diseased parts seem indurated, it is only the sensation imparted by the tumor *en masse*. In fact, whether you dissect it out, cut it, or scrape it, its tissue is easily torn, and it does not creak under the instrument. In this respect it totally differs from the healthy uterus. The latter resists the curette, it sounds, so to speak, at every scratch, and produces a feeling of grating, scraping, grinding, to the operator's hand. When you hear this sound you must stop, you would now only injure the uterus." There is little danger of taking too large a quantity of tissue; it is only after a considerable time that the outer surface becomes affected. For a long time it will be possible to take away all the diseased parts without running the risk of injuring the peritoneum.

The operation of curetting the uterus is very simple and beneficial, but it is beneficial only on condition of your giving the strictest attention to antiseptic precautions. This is a matter of the utmost importance, and it was by neglecting it that our predecessors obtained such unsatisfactory results. It is necessary that the vagina be thoroughly disinfected before the operation; this is done by means of repeated douches with disinfectant fluid, preferably with a weak solution of perchloride of mercury [an excellent deodorizer as well as disinfectant]. The bowels should also be well acted upon by an aperient, a general indication in all abdominal operations. The curettes should be of several shapes and sizes, some oval, some circular. They should not all have cutting edges, because it might be necessary—owing to particular indications during the operation—to proceed with the blunt curette. At the beginning of the operation the sharp curette is of course employed, but when the instrument has penetrated deeply, and has reached the healthy tissue close to the peritoneum, the blunt curette should be brought into play. When the curetting is complete, the cavity is washed out, either by the syringe, or swabbed with a tampon of sponge or cotton wool, and by this means any fungosities which may have escaped the curette are removed. It is astonishing how little bleeding results from the operation. The fear of hemorrhage, which deters many surgeons, is absolutely unfounded. Fungous cancer of the uterus, accompanied with severe attacks of hemorrhage, may be removed without danger. Secondary hemorrhage can always be prevented by means of the tampon.

On the completion of the curetting and sponging, all that remains

is to dress the cavity which has been made by the proceeding. Some surgeons cauterize the whole surface with the thermocautery. It is a very good plan, destroying the fungosities which may have escaped the instrument, and sealing the orifices of the bloodvessels which have been opened. Its efficiency is incomparably greater than the mere application of the cautery to the cancerous fungus without previous curetting. Other surgeons swab the cavity with tampons soaked in a solution of chloride of zinc, a method by no means so effective as the cautery, and with all its drawbacks in forming an eschar which has to separate and leave a raw surface. A method followed by other surgeons is merely to syringe the cavity with a solution of carbolic acid; and there are some who give the wound no after treatment whatever. This exaggeration of simplicity in treatment is a dangerous practice. It is probably the want of proper after treatment which produced the unfavorable results from the operation in former times, and led to the abandonment, as mischievous of a practice which is now considered so harmless. M. Terrailon prefers iodoform dressing. He puffs a little of the powder into the cavity and then packs it with iodoform gauze.

"There is not a better disinfectant, and I cannot too strongly recommend its employment. This first dressing is replaced by a tampon of ordinary absorbent wool. It has the same hæmostatic effects by its pressure, and it takes up the liquid exuding from the raw surface. If this dressing is changed every three or four days it will remain sufficiently aseptic, and will not give off any putrid odor.

Such are the rules to be followed in curetting the uterus. Two difficulties arise with regard to this procedure, which is usually so simple, when you have to deal with a cancer developing in the cavity of the uterus: (1) the difficulty of introducing the curette sufficiently deep through the narrow canal of the cervix; (2) the difficulty of after dressing. In order to overcome the narrowness of the neck, you must dilate. In discussing the advantages of the various methods M. Terrailon strongly condemns rapid dilatation by special apparatus, and gives the preference to gradual dilatation by means of metal bougies. The second difficulty arises from the contractions set up in the uterus when a tampon is left in the cavity while the cervix is intact. It is therefore recommended to swab the whole of the cavity, after curetting and sponging, with a caustic solution, and to confine the iodoform dressing to the vagina, thus fulfilling the indications of a complete antiseptic after treatment.

There are two contraindications to this palliative measure, which ought to be kept in mind. In the first place, when the neighboring organs are invaded by the cancer, in curetting there is danger of perforating the uterus. The second contraindication is furnished by the existence of circumuterine inflammation. If the uterus is immovable, if vaginal examination reveals the existence of any pelvi-peritonitis, or of acute or chronic inflammation of the broad ligament, you should not interfere. You only give a stimulus to the inflammation, and the

operation, usually so beneficial, may lead to serious peritonitis. Récamier's operation is rarely followed by accidents, but these are not impossible. The most frequent of all is uterine colic, a most painful affection. Sometimes there follows *phlegmasia alba dolens* of the lower limbs, also a painful and troublesome ailment, though not as a rule very dangerous. One of the accidents is pelvi-peritonitis, but this should be looked upon as a result of faulty surgery, either by neglect of antiseptic precautions, by defective operating, or by allowing the patient too great liberty after the operation.

"Do not think that you are disarmed when, after a first intervention, the disease reappears; there is nothing to hinder you from curetting a second time and even a third time, always with equal benefit to your patient. I have finished with cancer of the uterus. But the curetting of that organ is now solely and exclusively applicable to malignant tumors. Remember that Récamier employed it to remove from the uterus those small polypi which sometimes produce intractable hemorrhage; that we can use it in the treatment of fungous endometritis, and lastly, that we can obliterate those shreds of the placenta which, after parturition, graft themselves, so to speak, on the mucous membrane, and thus perpetuate the phenomena of congestion and hemorrhage. * * *

Only you must keep in mind that it is necessary to maintain the same precautions, and that on this condition you will be thoroughly protected from accidents. Remember also in chronic fungous endometritis you can obtain marvelous results by this operation, which is, in a word so easy, and of which the dangers are not to be considered in comparison with the troubles to a crowd of sufferers of which this rebellious affection is the source.

229. DILATING the Uterine Cavity, Vulliet's New Method of.—Translated from the *Nouvelles Archives D'obstetrique et de Gynæcologie*, Virgil O. Hardon, M. D., in *Atlanta Med. and Surg. Journal*. The object of this procedure is to render visible the internal surface of the uterus throughout its whole extent and to permit the inspection of the uterine cavity in the smallest folds of mucous membrane by the naked eye, without the aid of any special optical instrument, the light of the sun or of any ordinary lamp furnishing sufficient illumination. When once the uterine cavity is opened and dilated, it is possible to carry to any part of the wall of the uterus, under direct control of the eye, any instrument, such as a bistoury, curette, caustic or actual cautery, with as much ease and precision as in operations upon external organs.

The manner of dilation is as follows: The position of the patient is of prime importance. That which is preferable, I may even say indispensable, is that of Bozeman, or the genu-pectoral position. The perineum should be forcibly elevated by a Sims' speculum of as large size as possible. In case the pathological process, which necessitates

or justifies the dilation, has not produced more or less patency of the womb, the dilation should be commenced by inserting any instrument which can be easily introduced, such as a uterine sound or a urethral bougie. The size of the instrument should be gradually increased, choosing in each case such a one as is best adapted to the size and shape of the cervical canal. When a certain degree of dilation has been obtained by this means, the further procedure is the same as when the canal has been normally or pathologically dilated. It is at this point that the use of iodoformized intra-uterine tampons is to be commenced.

These tampons of cotton vary in size from that of a pea to that of an almond. A double thread is attached to their centre. They are prepared by plunging them into a ten per cent. ethereal solution of iodoform, drying them rapidly by exposure to the air and keeping them in a well-stopped bottle. These tampons are to be carried to the external os by long curved dressing forceps. They are then pushed little by little into the uterine cavity by a stiff metallic rod, having the size and curve of a uterine sound. They should pass completely through the internal os into the uterine cavity. The threads should be tied together into a single knot and passed into the vagina. Thus, at the first sitting, several tampons may be introduced, three, four, or even more, and they should be allowed to remain for twenty-four or forty-eight hours.

At the end of that time the tampons should be removed and, after washing out the uterine cavity, they should be immediately replaced by others, the number being increased at each sitting. The cavity should never remain entirely empty, as thus would be lost all the ground which has been gained.

As a rule, the uterus shows a remarkable tolerance of these tampons. Ordinarily no reaction occurs. Occasionally some pain is introduced, but only at the commencement of the dilation, and it does not last long. Vulliet has noticed in one of his patients a nausea similar to that of pregnancy. After the first sitting there is sometimes a slight rise of temperature for one or two days. I have never seen a chill.

In cases where it is desirable to hasten the first steps of the dilation, the iodoform tampons may be used for a day or two to secure complete neptis of the uterine cavity, and may then be replaced by laminaria tents, which should be removed in twenty-four hours and the tampons introduced anew. The laminaria has the advantage of hastening the dilation and producing a more uniform expansion. But it also has the disadvantage of producing traumatism, and is more painful to the patient.

With the tampons the operator plugs the uterus as a dentist plugs a carious tooth. The cavity is distended little by little, and advantage is taken of the space thus gained to continually increase the number of tampons, until finally the degree of dilation is such that when the tampons are removed and the air allowed to enter, the whole in-

terior of the uterus is visible, even to the fundus, and the uterine cavity and the vaginal cavity have the appearance of a continuous canal.

Vulliet make use of this method only when it is necessary or of benefit to the patient. When the introduction of the finger or the curette suffices for the treatment, dilation is pushed only to the extent necessary for that purpose. He has employed it in a number of cases of cancer of the uterus, in the three cases of submucous fibrous polypus, in two large fibro myomata, and in one or two cases of endometritis.

In regard to the time required for complete dilatation, it varies in different patients, according to the condition of the uterus and the amount of resistance of the neck. Usually it takes about fifteen days. When once accomplished, the dilatation may be maintained for a long time. In one case it was kept up for a year. The uterus contracts according as to the quantity of cotton is diminished; and when it is increased, the organ expands more rapidly and easily than at first. If the dilated uterus is left perfectly empty, it takes a long time, often many weeks, for it to regain its normal capacity.

Thus it will be seen that continuous uterine dilatation is very practicable. It is true it is often a long procedure, and requires much patience on the part of both surgeon and patient. In many gynecological cases it is capable of rendering valuable aid, not only as a means of confirming diagnosis, but especially in the application of direct local treatment under the control of the eye, a thing which up to the present time has been very difficult to accomplish. It greatly facilitates local therapeutics in many uterine affections, and it will doubtless in the future find more and more frequent use.

230. KOLPOHYSTERECTOMY for Cancer, with Tables

Comparing its Methods and Results.—The announcement of but an eight per cent. mortality in 24 consecutive cases by Fritsch, of but nine per cent. mortality in 55 consecutive cases by Martin, and of 16 cases by Staude, without one death, has revived a somewhat abated interest in this operation. Säger's mortality of 28 per cent. obtained in 1883, had to the end of 1884, remained unaltered, notwithstanding the increased numbers of Mundé's, Doche's, and Duncan's list. The limits of success had been apparently reached, and the operation, even by its friends, abandoned to the opprobrium of an extraordinary death-rate, which has in a degree been lifted in an elaborate paper by Dr. S. E. Post, which appears in the January number of the *American Journal of the Medical Sciences*. The article ably presents a brief history of the operation, the fact of a recently diminished mortality, with an analysis of its concomitants, and among them possibly its cause. The author shows:

1. The results of kolpohysterectomy for cancer have progressively improved with increase of the number of operations.
2. The total number of operations done up to the present time is

approximately 341, with a total mortality of 27 per cent. Two hundred and twenty-two cases were treated with the open peritoneal wound, with a mortality of 22 per cent. Of the 222, 93 had the supravaginal wound covered by peritoneum, with a mortality of 18 per cent.; and of 93, 50 were operated upon during the past three years, with a mortality of 10 per cent.

3. Of 97 cases who survived operations done previous to 1883, 18, or 20 per cent., are known to have been well at the end of 18 months or two years.

4. The latest results of kolpohysterectomy for cancer contrast not unfavorably with those of the total extirpation of other organs for malignant disease.

5. The tendency of medical literature is to regard kolpohysterectomy for cancer as a legitimate operation, subject only to the restrictions common to other extirpations for malignant disease.—*Am. Lancet.*

231. VAGINAL Hysterectomy for Cancer.—DR. REEVES JACKSON, of Chicago, concludes his paper on the above subject with the following remarks:

1. Any operation for cancer which does not completely remove the disease will be followed by recurrence.

2. During life, the diagnosis of the extent of cancerous disease originating in any part of the uterus is at present impossible; hence, no operative procedure can afford a guarantee of complete removal.

3. In view of this necessary doubt, no operation is justifiable which greatly endangers life, provided other and safer methods of treatment are available.

4. Vaginal hysterectomy has sacrificed the lives of more than one-third of those who have been subjected to it, the mortality of the operation when done by those of greatest skill and experience being over 36 per cent.

5. Other methods of treatment, attended by not more than one-sixth to one-fourth the mortality of vaginal extirpation, are equally as efficient in ameliorating the symptoms and retarding the progress of the disease; and they have been followed by as good or better ultimate results. Hence, they should be preferred.

6. Vaginal hysterectomy does not avert or lessen suffering; it destroys, and does not save, life. It is therefore, not a useful, but an injurious operation; and being such, it is unjustifiable, and ought to be abandoned.—*Jour. Amer. Med. Ass.*

232. CANCER of the Uterus: Diagnosis of.—DR. H. HANDFORD reports in the *British Medical Journal* the following interesting case:

M. T., aged 24, was admitted into the Nottingham General Hospital under my care, April, 1885. Her family-history was good. Menstruation commenced at the age of 12, the flow lasted four days,

and recurred every month. She was married at 15; and had had two children, both of whom died before they were 6 months old. Since then she had had two miscarriages at about the third month; the last five years ago, since which time she had been regular. She first noticed a foetid vaginal discharge about six weeks before admission, and a little later saw Dr. Truman, who diagnosed cancer of the womb. She never had any rash on the skin or falling out of the hair, and had no syphilitic eruption. On vaginal examination, the cervix was found indurated, enlarged, ragged, and excavated, so as to admit the index finger for about three-fourths of an inch. The uterus was somewhat restricted in movement, but the fundus was not enlarged. The examination caused a little hæmorrhage. I removed a small fragment of the growth, which, upon microscopic examination, was found to consist chiefly of large round cells, with a single large nucleus, but no flat or irregularly shaped cells. The tissue was pervaded by the mycelium of a filamentous fungus (one of the hyphomycetes).

The patient left the hospital, and died eighteen weeks later, six months from the first symptoms. No *post mortem* examination was made.

The diagnosis was between cancer, sarcoma, and syphilis. The ravages of the latter may be very extensive, but are stated to be limited to primary ulcers taking on a phagedænic character. There was no evidence of syphilis in this case. Sarcoma is said most invariably to take its origin from the lining membrane of the body of the uterus, and not to commence in the cervix. The microscopic examination of the portion removed did not suffice to determine the exact nature of the growth. The fragment was necessarily small, was infiltrated with inflammatory materials, and consisted in large part of vascular granulations. These latter cover the surface of ulcerating new growths, are an important source of the hæmorrhage, and, in many cases, differ very little in structure from healthy granulation-tissue; though, in others, "cell-nests," or other characteristic structures, may be found. For these reasons, I have come to the conclusion, after many trials, that negative results of the microscopic examination of scrapings or small fragments by no means disprove the malignant nature of the growth.

233. UTERINE Cancer, Palliative Treatment of.—DR. GACHES SARRANTE, in an article on the treatment of uterine cancer (*Nouvelles Arch. d. Obstet. et de Gynec.*), thus summarizes the results of his experience:

In cancer of the uterus, frequent dressing with liquids, powders, or other antiseptic agents, presents the following advantages:

1. When regularly applied, they suppress absolutely the hemorrhages, even when rebellious.
2. They modify the nature of the lesion by removing the putres-

cent products which form on its surface, and give it the appearance of a healthy sore.

3. At first they calm the pains, which later return with increased intensity, finally to cease definitely.

4. They prevent the absorption of infectious products, and thereby greatly improve the general health of the patient.

5. They moderate the extension of the lesion, and prevent extension by contiguity to the vagina and bladder.

6. Finally, they permit the patient to live the life of the world at large, and, so to speak, to dissimulate her malady.—*Med. Digest.*

234. EXTIRPATION of the Uterus, Leading article in the *British Med. Press and Circular*.—In the records up to the present, perhaps the best results in the formidable operation of total vaginal extirpation of the uterus for malignant disease are those recorded in the *Zeitschrift f. Geburtsh u. Gynecol.*, by Herr Brennecke. An operator is certainly to be congratulated who is able to publish a list of 18 cases of total extirpation of the uterus without a single death. This is what Herr Brennecke has done. Herr Landau, in the *Deutsch Med. Zeitung*, in a note on the paper referred to, shows that the operation, as performed by Herr Brennecke, has much to recommend it as regards simplicity and thoroughness. There are four main points to be kept in view in the performance of it.

1. Complete accessibility of the field of operation during every part of it. In addition to the ordinary instruments he uses a specially constructed clamp for drawing down the uterus, of which Herr Landau speaks in favourable terms.

2. There must be full control over any possible hæmorrhage. The posterior and anterior vaginal arches are opened by a knife made like Küchenmeister's after which the cervix is shelled out before and behind from the loose surrounding cellular tissue. In the same way he shells out the firmer lateral paracervical connective tissue carrying the uterine artery and its branches, from the looser connective tissue about it back and front. When this is done it is not difficult to ligature the lateral appendages of the uterus. For this purpose he uses a strongly S-curved needle like Olshausen's for introducing the ligatures. Landau does not recommend the needle, as it is liable to penetrate other tissues in the using, the eye of the needle being at the point of the instrument, a curved needle on a needle holder, according to him, answering the purpose just as well in every respect. After the appendages are made safe, he retroflects the uterus as far as possible. In this way the vesico-uterine fold of peritoneum is most safely divided without injuring the bladder. Finally, the broad ligaments on each side are enclosed each in an elastic india-rubber ligature, and the uterus is separated from them, proceeding in the manner just sketched out.

3. Injury of neighbouring important organs is most securely avoided.

4. The mode of operation and the after-treatment offer the surest possible guarantee for an aseptic course undisturbed by accidental influences. The after-treatment is very simple, as the operator refrains from all superfluous manipulation. He neither drains Douglas's pouch nor makes use of sutures. A glycerine iodoform tampon and the ligatures provide sufficiently for drainage. When the tampon is removed in the course of six or seven days simple vaginal irrigation is enough. As regards the indications for the operation, Herr Brennecke prefers total extirpation to amputation of the cervix in carcinoma of that part, as high cervical amputation is more bloody and less safe than total extirpation.

When others have found the operation as safe as our author, they may, like him, be tempted to extend it to other than malignant diseases. He is of opinion that other incurable affections of the uterus may find their appropriate treatment in total extirpation of the organ. He names endometritis hyperplastica ovarialis, small myomata, and hæmorrhages from unknown causes as diseases from which the operation would in his opinion be suitable. This consideration is clearly for a later period; total extirpation of the uterus is for us a formidable operation, and it will only be after we have proved its comparative safety in practice in diseases fatal to life that we shall seriously contemplate the extension of it to others that, with all due respect to our spirited German *confrère*, do not at present appear to call for such radical measures.

235. RETROFLEXION of the Uterus: Its Causes and Effects. GRAILY HEWITT, M.D.—Some years ago I began to recognise the frequency with which traumatic causes appeared to be responsible for the production of displacements, and since that time I have in all cases carefully questioned patients with the view of procuring evidence, confirmatory or otherwise, of this opinion. Of course the mere fact of the patients having had an accident or over-exertion at some time previous is no proof of its having caused the displacement. But when the history shows that the accident in question was followed by a train of symptoms which did not exist previously, when the symptoms are such as are commonly connected with retroflexion; when, moreover, these symptoms are relieved or removed by treating the displacement, the traumatic etiology of the displacement becomes in a manner proved. In the cases related are many instances where careful cross-examination of the patient elicited facts which were in the highest degree confirmatory of this view of the matter.

My experience during the last seven or eight years has led me to believe that the tissues of the uterus are not uncommonly in a very soft, atonic condition, and that such a state of these tissues constitutes a strong predisposition. Thus an accident, strain, &c., will be liable to displace and distort the uterus when this predisposition is present. There are many cases in which the traumatic cause is slowly

operative, as when the patient is continuously engaged in an occupation necessitating a strain, and consequent pressure on the pelvic contents. Similarly, a prostrating disease, by lowering the general vitality and weakening the resistance of the uterus will leave the patient in such a state that a slight strain or accident may at once produce a displacement. These considerations sufficiently account for the occurrence of a suddenly or a more gradually produced retroflexion in the large majority of cases.

Regarding retroflexion, cases observed in married women who have had children another origin for the retroflexion is, in many cases, to be allowed for, viz., the pressure of sub-involution of the uterus, together with relaxation of the sustaining connections of the uterus with adjacent parts.

An interesting contribution on the subject of the etiology of "Retroversio-flexio," will be found in a recent number of the *Zeitsch. f. Geb. & Gyn.*, by Küstner.

Küstner's belief is that this displacement is due in the greater number of cases to relaxation of the uterosacral ligaments, and of the muscular tissue in and adjacent to their structures. Küstner states that there is a general belief that retroflexion frequently arises in connection with child-bed. He has for some time investigated the mobility of the uterus by observations on women about the tenth day after labour in the Jena Lying-in Hospital. He found that out of ten cases examined it was possible, without causing particular pain, and by the exercise of a certain degree of force to convert the generally present slight ante-flexion into a decided retroflexion, by a conjoint double manipulation, in about three-fourth of the cases, while in the minority of the cases the attempt gave great pain, and was only partially successful. This observation was made on different sets of patients, with the same result. In the next place he examined the frequency of retroflexion in a hundred cases recently discharged from the lying-in hospital. He found that 11 were so affected (3 primiparæ, and 8 multiparæ). Investigating these cases he states in one case the long lying on the back was the cause, in one there had been an injury to one of the ligaments, and the retraction resulting from this gave rise probably to the displacement. In 7 (3 primiparæ, 4 multiparæ there was no known cause, and in two the patients were known to have had the displacement previously. Arguing from these facts he concludes that in many cases of retroflexion observed after labour the displacement existed previously. Following up this line of argument he considers the statistics in his possession as to frequency of retroflexion in virgins. In hospital practice he found that 13 per cent. of the retroflexions occurred in virgins, and in private practice 21 per cent. Now it may be remarked that Küstner is by no means singular in believing that retroflexions occur not very unfrequently in virgins, and that when a woman, who at the end of lying-in, presents retroflexion, evidence of

the existence of the retroflexion previous to pregnancy is often forthcoming. Dr. Tyler Smith in this country some years ago pointed this out. The cases given in my previous paper offer evidence of it, for during a period of about 13 years I observed 259 cases of retroflexion of the uterus, and of them 60, or about 29 per cent., were observed in single women. Küstner fails to find in his cases evidence in favour of the view entertained by Martin, that the dorsal position in the lying-in period favours occurrence of retroversion. He believes that the upright position favours the descent of the uterus to the axis of the pelvis, and that the dorsal position would only favour retroversion where there is anterior fixation of the vaginal portion. From experiments made he concludes that the voluntary downwards pressure of the abdominal muscles has no effect with or without artificial injection of bladder or rectum with water, unless the connections of the uterus are in an abnormal state. As regards the effect of lacerations of the os uteri, Küstner appears to be of opinion that such injuries by leading to inflammation are liable to produce contractions in adjacent connections of the uterus, and thus to favour displacement.

The general conclusion arrived at by Küstner is that child-bed has influence in the production of retroflexion in only a few cases. The condition is thus found to date from an earlier period. He has recourse to the theory that retroflexion is very frequently congenital, a conclusion, however, which appears to me inadmissible. Küstner says nothing as to the varying resistance offered by the uterine tissues themselves to bending backwards of this organ. When there is undue softness of these tissues, as in individuals badly nourished, downward pressure would be more liable to occasion a backward flexion. Nor does he apparently consider at all the effect of the action of accidents, strains, &c., to which I attach a very great importance, although his experiments on the living show that both during childbed and in the non-pregnant condition the uterus can be bent decidedly backwards in the majority of cases by a certain degree of force.

The precise estimation of the effect of a severe accident or fall on the uterus in a given case is difficult, because we can rarely know the state of the uterus prior to the accident. The force of the shock may be expended on the uterus as a whole, driving it downwards on to the floor of the pelvis, or propelling the fundus directly backwards and stretching or lacerating the utero-sacral ligaments at the same time, or the effect might be simply to incline the fundus decidedly backwards, the uterus subsequently given way more and more, converting a slight into a severe retroflexion. Lacerations of the peritoneal covering of uterus and effusion of lymph may possibly be conjoined in any of these supposed cases, and thus the organ is more or less liable to temporary fixation, or it may even

be supposed possible that some of the vessels in the uterine tissues or in the vascular plexus outside of it may be torn by the injury and blood effused in the parametrium. When the uterus is already in a state of retroversion a forcible depression of the fundus would probably compel the ultro-sacral ligaments to give way and a retroflexion would result. Here it is evident that the strength or weakness of utero-sacral ligaments would have had influence on the result of the accident, for if these ligaments were unusually strong the flexion would possibly not be produced. That the fundus may be forced downwards in a state of retroflexion, and caught as it were between the two is rendered probable by some observations of Dr. John Williams, but incarceration of this kind by the utero-sacral ligaments is, I believe, very rare. In the cases I have above detailed, I have mentioned two in which the fundus appeared to be moulded, as I surmised, by pressure of the ligaments. The rather frequent occurrence of retroflexion seems to indicate that feebleness of these structures is not uncommon.

I think it probable that in many cases retroflexion *originates* after child-bed. In such cases the displacement more usually begins to occur when the patient has been on her feet for some days, and in association with a delay in the involution of this organ. In several cases I have related in the foregoing papers the patient had one child, but no more; the secondary sterility being due to a subsequently acquired retroflexion. I believe that the cases examined by Küstner after discharge from hospital would probably have presented some instances of retroflexion if examined two or three months later. His own experiments show that no great force is required to produce the dislocation.

The unusual soft condition of the uterine tissues to which I have above alluded appears to me to be very important in any discussion as to the etiology of retroflexion. This condition is found usually whenever the individual is in a weakly, half-starved condition; and after parturition the softness is liable to be observed, due to sub-involution of the organ. It is possible, of course, that relaxation of the semi-muscular attachments of the uterus posteriorly may be co-existent factors. The occurrence of retroflexion is, I believe, in the majority of cases due to undue softness of uterine tissues, associated with effects of falls, accidents, strains, or over exertion. These factors associated bring about—sometimes suddenly, in other cases more gradually—the distortion in question. Child-bed favours its occurrence as well as its recurrence and aggravation, the soft large fundus descends posteriorly, its descent being favoured by a weak or relaxed state of the utero-sacral ligaments.

In conclusion, I would state my conviction from results of observation that both in the virgin and in the puerperal woman the uterus most frequently becomes retroflexed in consequence of operation of a traumatic influence, favoured by a weakness of the ligaments or of the

tissues of the uterus, or both. The probability is also that in some cases the tissues or peritoneal covering of the uterus become thus stretched or even torn in some cases. The reparative process may lead to contractions, and these contractions, by abnormally fixing the uterus, favour a subsequent malposition and displacement. This view of the matter seems to me more in conformity with clinical evidence than any other explanation of the occurrence of retroflexion which has yet been put forward.

236. UTERINE Sound, the use of the. Leading article in the *British Medical Press and Circular*. — The multiplication of instrumental aid to diagnosis has probably been more marked in connection with gynæcology than with any other single department of medicine; and there is, unfortunately, some reason to suspect that in their presence, and owing to the implicit reliance placed in the results they yield, the cultivation of the *tactus eruditus* has been neglected to a considerable extent by modern students. But no instrument is so blameable in this respect as the sound, the use of which is all but universal, and is resorted to almost as a matter of routine, even in ordinary general practice, with consequences not rarely disastrous to the patient, and occasionally, it must be admitted also, to the practitioner himself. That this is a well recognised fact is clearly shown by the repeated cautions given in text books, where it is impressed on students that the utmost care should be exercised against introducing the sound into a pregnant uterus, though it is apparently taken for granted that having guarded against this danger, but little else need be considered, and it is especially noticeable that the free use of the instrument as a repositor of the displaced womb is, as a rule, suggested and encouraged. Similarly, as a means of diagnosing the presence of intra uterine fibroids, &c., it is usually recommended as a facile and ready assistant, some authors even going so far as to regard of small moment the possible passage of the instrument into or through the walls of the uterus.

Such teachings are, it must at once be conceded, prone to be attended with mischief, often of a serious nature; and they, further, tend to distract attention from the importance of other methods of examination, above all that known as the bi-manual. That information of the most essential kind is to be gained by the latter mode of investigation is insisted on by the highest authorities; and it is quite possible that the physician who consents to discard the sound altogether in favour of his own unassisted fingers will, in practice, secure more uniformly successful results of treatment than another by whom the sound is constantly employed for diagnostic purposes.

In skilled hands and with experience and education to guide on the part of the manipulator, the instrument can do no harm; but under opposite conditions it becomes a very capable engine of ill, though the amount of injury that may be inflicted by it is not by any means

a point on which the profession is agreed. The records of gynæcology, however, are sufficiently stocked with instances of ill effect resulting from the incautions or injudicious use of the uterine sound, to at once dispel any delusion that may be entertained as to its innocuousness; and it is highly desirable that the existing tendency to its still more general adoption should be tempered by a careful consideration of all that its employment involves. In this relation we may draw attention to an interesting and instructive discussion which occurred at the recent meeting of the American Medical Association, when Dr. W. Potter, of Buffalo, read a well considered paper on the subject. In this communication the author expressed the belief that the uterine sound had done more harm to women than any other instrument used in the management of her diseases; and that, young physicians, who are especially prone to its employment, often cause irreparable damage to the genital tract, or to the health of the female patients. In Dr. Potter's opinion the sound should be applied only as a *dernier ressort*, and in conjunction with extreme doubt; and always with the utmost circumspection and gentleness. Among the results following its introduction he quotes from his own experience the development of metritis, pelvic cellulitis, and peritonitis, salpingitis and ovaritis; and among other consequences of a remoter kind, he instances neuralgias, headaches, backaches, and the reflex neurotic affections of a reflex character that are classified under the general heading of hystero-neuroses. As indications, in the absence of which the sound should never be employed, Dr. Potter gives a patulous os and an endometrium free from disease; and he advocates the use of Sim's virgin silver instrument as preferable to the more rigid sound of Simpson. Moreover, he insists that it should never be passed at the first interview with the patient, nor until the topographical relations and special peculiarities of the genital tract of the latter have been carefully studied and appreciated by the practitioner. He advises also that cotton wool should be rapped round the sound to act as a sort of cushion to the metal, but with every precaution it ought only to be employed under circumstances of absolute necessity. Its use as a repositor of the uterus he characterises as "barbarous" practice, and urges that all such cases should be treated by manipulation and adoption of the genu-pectoral position.

The high authority of Dr. Engelman supports the conclusions expressed by Dr. Potter; and it is interesting to learn from the personal statement of the former that during the last three years he has not once used the sound, preferring to trust entirely to the information gained through his finger tips, which he found to be much more reliable than that derived through any adventitious aids, while he regarded the sound as useless in the great majority of cases, and as far more likely to cause injury than to yield any beneficial results. This experience is borne out as well by our own gynæcologists, and notably by Mr. Lawson Tait, who discards the sound in favour of his fingers in an increasing degree each year, and whose chief advice to students is "educate the finger tips."

237. ENDOCERVICITIS, a remedy for.—DR. J. C. KIRK, in a communication to the *Practitioner*, states that there is one condition of the cervix uteri which resists all ordinary methods of treatment. I refer to that obstinate form of endocervicitis in which a discharge quite similar to the white of an egg is poured out in great quantities. In all forms of cervical catarrh this secretion is produced more or less, but in the form I refer to the glands are remarkably active, and produce immense quantities of this discharge. As said before, the ordinary forms of astringent and caustic applications will not cure this condition. I have found but one remedy that will cure these cases, namely, an aqueous solution of chromic acid (3j. to aqua 3j.). Four or five applications of this remedy, at intervals of a week, usually suffice.

238. STERILITY, The Causes of.—DR. EMORY LANPHEAR, in an editorial article, *Medical Index*, says: "The treatment of sterility consists in the removal of the causes" is an axiom of a thousand years. The intricacies of sterility are as numerous as the causes. In the first place, it must be remembered that, in order to accomplish impregnation, three things are necessary: (1) the ovum of the female must have free passage to the uterus: (2) the semen must effect an entrance into the womb; (3) the semen must contain spermatozoa.

Preventions of the first may be from absence of some of the essential organs, or, most frequently, from closure or displacement of the Fallopian tubes, arising from pelvic peritonitis with adhesion, or from a gonorrhœa which has traveled up the uterus and tubes, rendering the covering of the ovary so thick that the ovum cannot escape, or so bound the fimbriated end of the tube that it cannot rise up to grasp it. These causes of barrenness are beyond reach. They are the ones to which prostitutes owe their immunity from impregnation, though frequently the ova are not sufficiently healthy, as it is often true in any woman affected with nervous prostration.

A large proportion of cases of sterility arise from obstacles to the second of these requisites, mechanical obstructions being the most numerous. Dr. Sims called attention to the most prolific source of infecundity—a conical cervix. Dysmenorrhœa should always demand an examination for this. Dilatation of the canal, or amputation, of course, is the proper remedy.

Dysmenorrhœa not due to mechanical causes is sometimes described as a source of sterility; when so existing it should receive attention. Among the latest remedies suggested is zinc phosphide, one-eighth of a grain morning and evening. With this agent I have been highly gratified, but would call attention to the fact, mentioned by Decoux in recommending it, that the crystalline form only should be used, the ordinary powder being totally inert.

Other impediments requiring surgical interference are obturator

hymen, vaginismus, abnormal growths, such as polypi and fibroids, and atresia vaginæ, easily discoverable. Displacements also must receive proper attention as well as inflammations along the genital tract, particularly corporeal and cervical endometritis which Thomas claims is the most common cause of sterility, excepting nothing. Excessive and prolonged menstruation may be a causative agent.

None of these numerous causes being discoverable, the male must be examined in regard to the third essential to conception. Men are very unwilling to admit that they are impotent, but they must submit to such examinations.

It is well to remember that a man does not necessarily possess virility because he has ejaculations of semen—that he is a potent man only when he has testicles doing proper service; that “a woman is a woman, not because she has a uterus, but because she has ovaries;” and that to become pregnant her healthy ovum must be reached by the healthy spermatozoon; and, finally, that syphilis may act as a causative agent in the production of sterility.

239. STERILITY *Therapeutics of Female.*—From the advance sheets of the unpublished book of Prof. Kisch (Prague-Marienbad), entitled “Sterility of Women.”

The therapeutics of female sterility has as its object the removal of such causes as have brought about this pathological condition. But this testifies at once to the difficulty and uncertainty of the therapeutic interferences.

The first step toward a cure of this defect is a scrupulous and minute anamnesis of the genital and marital relations not only of the wife but also of the husband, provided such be possible. We have to consider the sexual development of the woman, the age of her maturity, and naturity of menses, with all details. We have to search for a scrofulous, syphilitic, or other hereditary taint, to inquire as to her past state of health, diseases of childhood, and the history of her family and relations, especially in view of an absent or scanty procreative ability. The delicate questions concerning the coitus, its relations, nature and consequences, can unfortunately be not avoided. It is necessary for the physician to know whether it occasioned pain or the normal gratification, whether the introduction of the penis into the destined parts is impeded or not, and whether the sperma rapidly flows out again from the vagina. (A case is reported to Kisch where a lady consulted him for her sterility, which was afterwards traced to a condom used by the husband without her knowledge.) If possible, the sperma of the husband is to be examined microscopically. It is gathered in a condom, and brought for inspection immediately after the coitus. Several drops of vaginal or cervical mucus are likewise taken from the parts immediately after a coitus, the sperma placed in it, and the possible influence of the female secretions on the male noted. Occasionally we observe

numerous spermatozooids moving to and fro in the semen: but, when placed in the secretion of the female genitals, they lose at once their mobility. This of course shows that the *materia peccans* in this instance does not rest with the man. Some men object to the examination of their semen as an insult; they regard *potentia cœundi* as identical *potentia generandi*.

We have to find out whether germ-formation is impeded, or whether inherited or constitutional alterations are present in the ovulum, which render the same unimpregnable. Besides, we have to search for organic affections of the ovaries or their neighborhood, which either prevent the formation or the descendance of the egg. The tubes of the cervix may be at fault on account of a congenital or acquired narrowness. Perhaps the secretions of the vagina are morbidly affected, so as to render the sperma inert. Numerous other questions of this kind are all deserving of our consideration, and we see that only by the most careful and minute scrutiny is it possible to reveal, of the numerous possible causes, the reason of the sterility in a given case.

Sims's assertion that the cure of sterility can only be accomplished by surgical interference is untenable. The principal factor is a medication which raises the nutrition of the entire organism, improves the blood-formation, and favors the resorption of pathological products in the sexual organs. For in a large majority of cases presented for treatment we have to deal with anæmia, chlorosis, and scrofulosis. Local alterations in the parts of course require their rectification, such as the various forms of flexion and version. Occasionally surgical interference is called for in cases of abnormal conditions of the hymen, or of abnormal communications between vaginal and neighboring organs, or, finally, on account of neoplasms.

The prophylaxis of sterility deserves the fullest attention of every practitioner. The first requisite, of course, is a complete sexual maturity in both the husband and wife, which, as everybody knows, is not always the case at the present day, especially in so-called high life. Another important factor is the avoidance of marrying relatives. The results of this principle, as practised for centuries among the Spanish nobility, are two well known to require any illustration. In certain savage races, on the other hand, the exogamic principle—*i.e.*, to marry only women from another tribe—is strictly observed. Next in importance as prophylactic measures stand proper diet, regimen, and occupation of the girl, especially during the period of menstruation, and in case of a married woman, additional prudence in her confinement. Jumping, dancing, riding on horseback or in sleigh, often lead to inflammations of ovaries, peritoneum, and pelvic connective tissue, especially during menstruation, with the ultimate result of sterility. There are girls who for modesty's sake do not wish to acknowledge their menstrual indisposition when asked to join in a dance or sleigh-ride, and who after a while pay a severe

penalty for their misplaced bashfulness. That masturbation also enters a certain extent into the causes productive of sterility seems very plausible, though, of course, definite information in this direction is wanting. In some instances the fault lies with a deficient involution of the uterus subsequent to a confinement, while uterine catarrhs and residual exudations are to blame in other cases. Indeed, metritis has been occasionally produced by venereal excesses of husband and wife, so that even in this direction precautions are not out of place.

In conclusion, Kisch advises every mother to fully instruct her daughter previous to an intended marriage of her future duties, and to give her such admonitions as will lessen or remove the chances of a future sterility.—*The Therapeutic Gazette*.

240. UTERINE, Is Disease of the Appendages as Frequent as it has been Represented? This is the title of an interesting and instructive paper by DR. HENRY C. COE, in the *Am. Jour. of Obs.*—The doctor denies, with the voice of authority, the brazen claims set up to precision in the diagnostication of these lesions, that we see so often paraded in the papers and discussions, claims that have no foundation either in truth or in possibility, and that are conclusively and finally vetoed by the revelations of the dead-house, and by the examination of the organs removed. The author asserts that of all of the extirpated tubes he has examined, and he has examined a large portion of all of those removed in New York, he has found pyosalpinx in only one case out of five; that in a large proportion of the cases, there was no positive evidence of pathological changes of a serious nature in the ovaries.

The inference to be drawn from his observations, is that a large proportion of the patients operated upon were in no way benefited by the operation, while some of them were made worse.

He does not, of course, undervalue the importance of Tait's operation, nor of the removal of the ovaries, when the necessity exists. His objection is to operations based on insufficient data, and he adduces evidence to show that in many instances these operations have been performed needlessly and with pernicious results.

The author says in conclusion, the following deductions may be regarded as legitimate:

1. Ovarian disease is *not* as common as it has been represented; the surgeons, and *not* the pathologists, being responsible for the prevalence of the contrary opinion.
2. Because an ovary is partially diseased, it does not follow either that its functions have been materially impaired, or that its removal is imperative.
3. The expression "cirrhosis" and "cystic degeneration" commonly applied to the ovary are mischievous terms, which are too often used in justification of *unjustifiable* operations.
4. Actual disease of the tubes is far less frequent than is generally

believed. Lesser degrees of inflammation, especially slight "catarrhal salpingitis," are seldom appreciable to the pathologist, still less to the surgeon.

5. Many of the symptoms ascribed to diseases of the uterine appendages are really due to *localized peritonitis*, and will *not* be removed by a removal of the appendages.

6. The physiology of the ovaries and tubes is still imperfectly understood, their pathology must then remain *sub judice*, and operations for their removal, on the ground of limited disease alone, must be regarded as largely empirical. To which I would venture to add the prediction :

7. The present enthusiasm in this country in favor of Tait's operation will not endure, because it will eventually be discovered that the number of *permanent* cures is entirely out of proportion to the number of operations.

241. LAPARO-HYSTEROTOMY in a Case of Supposed Extra-Uterine Pregnancy. DR. A. H. BUCKMASTER in *Med. Digest*.—Among the recent remarkable chronicles of extra-uterine pregnancy, none have shown so reckless and appalling a disregard of the elements of diagnosis, as a report of a case in the *Medical Record* of May 8, 1886, entitled "A Case Simulating Abdominal Pregnancy," &c., purported to have been read before the American Surgical Association in session at Washington, D. C. The article states that, appended to the paper is a letter from Mr. Lawson Tait. "endorsing the performance of abdominal section in the above case," and suggesting the method of Porro, rather than that adopted. It is to be hoped, for the reputation of the writer of this paper as well as his endorser, that the report is incorrect and garbled.

The writer of the paper was called in consultation to see a patient believed to be the subject of ectopic gestation at the end of the period of pregnancy. "Vaginal examination showed the os protruding three inches beyond the labia. *The os was sufficiently patulous to permit the entrance of the index finger.* Rectal examination gave negative results. Palpation and auscultation showed the position of the foetus to be dorso-anterior and obliquely transverse. Placental souffle could not be heard. *The abdomen was so large, and the fetal heart sound so distinct, that the writer also concluded that the case was one of extra-uterine pregnancy,* and the patient was examined by a number of surgeons, who agreed in the diagnosis. The history and symptoms indicated that the patient was at the full term of pregnancy, and it was decided that immediate surgical interference was imperative."

The abdominal cavity being opened by an incision six inches in length, it was seen that "the exposed tumor much resembled the pregnant uterus." The incision was extended above the umbilicus, and it was positively determined that the case was one of uterine pregnancy. The uterus was drawn forward and its anterior wall cut

through. A vigorous female child, weighing seven or eight pounds, was removed. The incision in the uterus was closed with "deep and superficial catgut sutures." The patient lived four days, and the autopsy showed the wound (referring to the uterus) "gaping throughout."

The diagnosis of extra-uterine pregnancy is based on the existence of many of the symptoms of pregnancy, together with the recognition of a tumor connected with an *empty uterus*. If the symptoms in a given case point to the existence of ectopic gestation so as to warrant the consideration of a laparotomy, the uterine cavity should be thoroughly explored. If the child is in the uterus and the gestational period completed, this will do no harm; and if the uterus is empty, and it is done by aid of opium or a small amount of chloroform, this method is harmless. To proceed with a laparotomy without doing this is unwarrantable. The absence of rhythmic uterine contractions, a sign on which the endorser of this paper, Mr. Tait, relies so much, is said to be of some slight service in differentiating intra- from extra-uterine pregnancy. The signs obtained as above, and written in italics, would scarcely warrant a *suspicion* of the condition.

The importance of the shortest primary opening in an explorative incision is well exemplified in the present case. The first incision should be large enough to permit the introduction of two of the operator's fingers, and this may be followed by an enlargement sufficient to admit easily his hand. The operator, in the present case, commenced with an incision of six inches, which will permit the introduction of any ordinary hand, and if he had made his diagnosis at this time, it would have facilitated a method which, we believe, under the circumstances, offered infinitely greater chances of life to the mother.

The incision was extended above the umbilicus, when it was discovered that there had been an error in diagnosis, and that the child was in the uterus. At this stage of the operation, we believe it would have been much better for the woman, after closing the abdominal walls with silk or wire and applying a binder—preferably a rubber bandage—to have secured dilatation, and delivered rapidly by version, if necessary. The use of chloroform or cocaine would have controlled the pain.

Another interesting point is the condition of the uterine wound which is found "gaping throughout" at the autopsy.

The writer last winter saw catgut sutures applied in a case of ruptured uterus, and before the last sutures were tightened those first placed had become loose, so that it was necessary to substitute silk, and I believe the general experience is opposed to the use of catgut sutures in uterine tissue.

Many cases of extra-uterine pregnancy will die without being afforded surgical relief, because the diagnosis is difficult at the early periods of gestation, but that grave operative procedures should take place without exhausting all known methods of diagnosis can scarcely be conceived.

242. OVARIOTOMY *Oophorectomy, and Hysterectomy, Abdominal Section for.* DR. ANDREA RABAGLIATI, in *Med. Press and Circular*.—I do not propose to go into the history of abdominal section, but will confine myself to a few remarks on points arising in the course of operation, or of the after treatment, which appear to have considerable practical importance. In referring to my sixteen cases of abdominal section, I find 10 with two deaths (but one of these was a hysterectomy also) were for ovariectomy; 3 for hysterectomy, of which two died: and 3 for oöphorectomy, all of which recovered. One of the most important points is the treatment of the pedicle. Before doing my first case in 1880, I had gone to see Dr. Thomas Keith operate in Edinburgh. Dr. Keith at that time used iron wire to secure the pedicle, and I followed his plan in my first cases which was successful. The ends of the wire were turned inwards, so as to avoid injury to the peritoneum. But afterwards, on reflecting on the point, it seemed to me that if it were possible to leave nothing in the abdomen which could set up irritation after operation, it would be better than leaving even iron wire, and hence in all my subsequent cases I have used catgut (except in one or two where I used silk-worm gut). It is known, and I have seen it myself over and over again, that catgut sutures actually *are* absorbed, while metal, of course, cannot be, though it may become encysted. As to silk, a curious delusion, as I conceive it to be, is current, to the effect that this material is absorbed. In 1880, Dr. Keith told me that he had been troubled several times by the occurrence of abscesses some months after abdominal section, which recovered usually after the extrusion from the abdomen of a silk ligature. This proves that silk is at least not always absorbed. (Dr. R. here showed to the members of the society a silk ligature which he saw used at an operation at which he was present, and in reference to which he had said to the operator at the time, "the only thing I should have done differently had I had to do this operation would have been to use a catgut ligature." The silk ligature had caused suppuration, and found its way out, just as he feared it would). Mr. Wheelhouse recommends (March, 1885) a single thickness of silk, strong enough to bear a sufficient strain, and thoroughly carbolised. With this he thinks he has reached the acme of safety, and he adds that "the ligature itself, being an animal substance, is presently entirely removed by absorption, and ultimately no trace of it can be found." In view of the experience communicated to me, as well as from what I have shown to the Society, I think this statement a questionable one, although, of course, the very thin ligature Mr. Wheelhouse recommends will be less likely to cause damage than a thicker one. I have never had to use the cautery to stop bleeding from the pedicle.

Another important point in the operation is the existence of adhesion. It was early said of this operation—peritonitis will always beat us. Happily this has been found to be a great mistake, but still the

existence of any causes tending to induce peritonitis, complicates and increases the dangers of the operation. In one of my cases I found terrible and almost omnipresent adhesions, so strong that it was difficult, indeed, to separate them. I had actually made the mistake (which I once saw another surgeon fall into) of separating the peritoneum from the muscles when I thought I was separating it from the tumor. The patient died, but both hysterectomy and ovariectomy had to be performed in the course of the operation.

Great enlargement of the uterus, I also think, increases this danger; though I had one curious case of great uterine enlargement, in which hysterectomy was performed the patient recovering without a bad symptom, and in which, still more curiously, no bleeding took place from the stump. Speaking of this, I am led to the conclusion that a good stump gives additional facilities for the healing process. I like to bring peritoneum to peritoneum as far as I can, both in the pedicle and after excision of the uterus itself.

As to oöphorectomy, I know there is a great difference of opinion concerning it; some men holding that it is hardly justifiable at all, while others resort to it frequently. A distinguished physician lately told me how he had been consulted as to the advisability of removing the uterine appendages in a lady who was said to suffer *frightfully*. On coming downstairs, the three doctors met the lady's husband, and the consultant said to him, "is your wife, do you think, suffering much more than usual?" "Well, yes," said the husband, "but she has always suffered a good deal." "Has she been confined to bed?" "Oh no!" "How often has she been out this last week?" "Well, we were three times out for dinner, and twice at the theatre!" The consultant turned and looked at the doctors, and said nothing! The operation was not recommended on that occasion; but for all that, said the consultant, she has both her ovaries out now. The same member of the profession said, "No doubt the clear case for the performance of the operation is bleeding uterine fibroid; where you hope, by inducing the menopause, to stop the hæmorrhage." Of course, all would subscribe to this; but though none of my three cases were performed for this cause, I think I can give a very good account of them all. The first was performed on August 10th, 1883, on a married woman, æt. 26, who had been ill for five years, commencing, she said, with an attack of inflammation of the bowels. She suffered from shooting pain across the body, particularly on the left side, which got gradually worse. She had been poulticed night and morning for this for six months in the Infirmary, and had also been blistered, but without any relief. The right ovary was found to be adherent and cystic; the Fallopian tube was dilated and injected, but not suppurating. It admitted the little finger. Both ovaries were adherent to the uterus, and the left tube was also dilated. Since the operation the old pain had never returned, though in other ways the patient has suffered a good deal. I contend, therefore, that the operation was justifiable, as

affording the prospect of relief when all other remedies had failed. In this case, as happens from time to time, frequent returns have occurred of what simulates menstruation. My next case was a married woman, 33 years of age, who had also suffered for years and years from deep pelvic pain which nothing relieved. I took Mr. Lawson Tait's opinion, who had no hesitation in recommending the operation. Here also the pain disappeared after the operation, but unfortunately, owing to excessive sickness, a hernia had followed the operation; and two attempts to cure it had failed from the same cause—excessive vomiting due to an anæsthetic. The operation had had one uncommon result in this case.

243. IMPERFORATE Hymen, Operation for.—The best method of operating in vaginal atresia, whether from imperforate hymen, or from other cause, is still unsettled, particularly as to the immediate or the gradual evacuation of accumulated menstrual fluid, and as to washing out the uterus if rapid evacuation be used. As remarked by Barnes, a few years ago, in a discussion upon the subject before the London Obstetrical Society, fatal cases do occur now and then, no matter which plan may be pursued. It is probable, however, since antiseptics have taken so important a place in therapeutics, and are so generally used in the operation referred to, that its mortality will be lessened. Nevertheless, danger may come from the antiseptic itself, as suggested by the history of a case recently reported to the *Société de Chirurgie* of Paris, and which we find published in the *Journal d' Accouchements*, of December 30th.

A girl, twenty years of age, had for a year suffered from severe abdominal pains; she had never menstruated, and emmenagogues were given her without effect. Upon abdominal examination a tumor was found reaching nearly an inch above the umbilicus; at the vulva a violet-colored tumor, formed by the thinned and distended hymen, was found. The patient was anæsthetized, and a small anteroposterior incision was made into the imperforate hymen, this incision was afterward increased in size, and a transverse one made; gentle compression through cotton wadding upon the abdomen was made, and the liquid evacuated in three-quarters of an hour. A tube was placed in the vagina, and a two-thousandth solution of corrosive chloride used to wash out the vagina; these corrosive sublimate injections were continued until the fifth day, when a slight mercurial stomatitis being manifested, they were substituted by a solution of carbolic acid. The patient promptly recovered.

M. Berger, the reporter, recognizes the dangers that may occur from rapid evacuation in certain cases of menstrual retention, but these cases can be known in advance by the fact that the distended tubes are discovered by abdominal examination, presenting fluctuating tumors outside of the median line.

The fact that this patient suffered from mercurial poisoning, though

this was only slight, proves that the normal vaginal mucous membrane has greater power of absorption than has usually been attributed to it, and suggests the importance of using weaker solutions of the corrosive chloride, especially if intrauterine as well as vaginal injections are made.—*Med. News.*

244. OXALIC Acid as an Emmenagogue.—M. V. POULET reports a number of cases in which oxalic acid has been used for amenorrhœa from various causes. He regards its effects as marvelous, including an amelioration of the pain in cases of dysmenorrhœa. He gives it according to the following formula :

Oxalic Acid.....	2 parts.
Warm Water.....	200 parts,
Syrup of bitter-orange peel.....	60 parts.

A teaspoonful is to be taken every hour.—*N. Y. Med. Jour.*

245. LEUCORRHŒA.—J. G. BOURDON, in *Mass. Med. Jour.*—Leucorrhœa in its simple form may be regarded as merely an excess of the natural secretion of the parts, and it is only when the secretion is in excess that any escapes from the vagina. In the simplest forms we have only to remove the exciting causes, give a mild purgative and, probably, use astringents, and a cure is easily effected. But, usually, it is not this simple disease. It may indicate a disease of the womb which is far more difficult to treat. The causes are various and may be local or constitutional. Some of these causes are general plethora, debility, irritation of the walls of the vagina, pruritis, and in children, intestinal irritation. If we can find out the cause, that will indicate the treatment. Some physicians treat exclusively by astringents, and change from one to another until they produce the desired effect. The older writers advise bleeding but no one thinks it advisable now. When the discharge is from the vagina, astringents may be used with good results, and of these the very best I have ever used—it is far better than alum, tannin, etc.—is hydrastis, of which I use Merrill's colorless solution.

Those cases in which the patients refuse to be examined are hopeless, until their misery compels them to submit. Leucorrhœa is divided into two classes—vaginal and uterine. Some writers make a distinction between the leucorrhœa dependent upon the disease of the cervix, and that of the os, but this is useless in practice. The greatest number of cases depend upon disease of the vagina, and astringents, if properly applied, will cure, or greatly modify them. The applications must be made in a thorough manner. The little glass syringe commonly used is perfectly useless. The parts must be flooded so as to distend the vagina, and bring the application in contact with every portion of the tube, and for this purpose I find no other syringe equal to the "Pallas" of recent introduction. By its use the vaginal canal may be thoroughly washed, while the hard rub-

ber labial shield protects the body linen from being soiled. Cervical leucorrhœa may be distinguished by the glairy, ropy, tenacious character of the secretion which proceeds from the muciparous and other glands, and is always the result of inflammation. The secretion is normal in character, but the quantity is in excess. In the treatment, all discoverable causes should be removed, the general health should be improved, and mal-positions of the uterus should be corrected. In the local treatment, I consider the introduction of the speculum *sine qua non*. You must remove all the discharge from the os before you make any application, for if you do not, you merely coagulate the albumen, and produce no effect on the disease. I usually wrap some cotton around a probe, and pass it into the canal, and wipe out by a rotary motion. Sometimes I have to introduce the cotton 10, 15, or 20 times before the mucus is entirely removed. If blood appears on the cotton, it shows that the mucous surface has been reached. I then place a pledget of cotton under the os, so as to protect the vagina, and apply carbolic acid. I dip the probe in the acid and pass it well up. Some leave a pledget of cotton saturated with acid in the os, but my experience is that it produces uterine colic, so I remove it at once. I make two or three applications at a sitting, or until I am satisfied that all parts have been touched. I then carefully wipe away all remains of the acid with a sponge, and introduce cotton saturated with glycerine. This acts as a hydragogue, and produces a profuse watery discharge. As an adjunct, I have the vagina well flooded, using a gallon or two of water, as hot as the woman can bear. I make the applications of acid every four or seven days. Six weeks usually suffices for a cure. In regard to the choice of a speculum, Ferguson's is good, but unhandy in cases of anteversion; I generally use Thomas' modification of Cusco's. Some say it is too short, but I generally find it too long.

Leucorrhœa sometimes depends upon too frequent coition, for which abstinence is usually sufficient. It is generally acknowledged that acrid discharges from the vagina can produce gonorrhœa in the male. In regard to the leucorrhœa of pregnancy, if it will yield to simple measures, I treat it; if not I let it alone, feeling sure that it will cease with the pregnancy.

In leucorrhœa during lactation, in all delicate women, I give tonics and improve the health. It is wrong to wait for the cessation of lactation to cure the leucorrhœa, for there is a double drain upon the system which debilitates them very much.

246. HYSTERIA Treatment of.—Dr. CHAS. K. MILL recently read a paper before the Philadelphia Medical Society (Polyclinic), in which he considers chiefly the follow points: 1. The moral treatment of hysteria. 2. The value of operative procedures. 3. The treatment of grave convulsive attacks.

Under the head of moral treatment he discussed chiefly the best

methods of applying this treatment; he discountenanced harsh methods, except in special cases, and believes that they should only be used after due consideration and by a well digested plan.

With reference to oöphorectomy for hysteria he concluded: 1. It is only rarely justifiable. 2. It is not justifiable in the case of girls who have not menstruated. 3. When disease of the ovaries can be clearly made out by local objective signs, it is sometimes justifiable. 4. It is justifiable in some cases with violent nymphomania. 5. The operation is sometimes performed without due consideration, and the statistics of the operation are peculiarly unreliable.

The treatment of spasmodic seizures, he said, should differ according as they were purposive or involuntary. For the purposive or voluntary attacks, such measures as threats, holding of the nose, inhalation of ammonia, etc., might answer. Nerve pressure, inhalations of nitrite of amyl, and electrical currents to the limbs, feet, and, in well chosen cases, to the head were advised. It was insisted that electricity should never be applied to the head except by a physician entirely familiar with its properties and powers.—*Am. Lancet.*

247. FUNCTIONAL Disorders of Females. DR. WILLOUGHBY FRANCIS WADE, in *The British Medical Journal*.—The most unequivocal differences between the two sexes are, unquestionably, anatomical ones, the possession by each of organs of which the other is devoid. These organs are those which are directly concerned in the process of reproduction. This fact suggests that we have here the central point of the human race, that round which all revolves, from which all radiates. But, when we reflect, we perceive that, in this fundamental respect, we resemble not only all the animal, but also all the vegetable, world.

It is not, then, so much the centre which differentiates us from the rest of the organic world; the same *leitmotif* governs the conjugation of the humble algæ and the gorgeous ceremonies of imperial nuptials. That *motif* is the impregnation of the passive by the active particle in obedience to the imperious obligation of Nature, "so careful of the type, so careless of the single life." True, the radiations, the surroundings, the accidental accessories as distinguished from the essential elements, do place between us and the highest other grades an immense, and between us and the lowest an immeasurable, gulf. But throughout the whole web of organic Nature, one thread is never broken. Upon a common fabric, the artificer may broder rude patterns in coarse materials, or elaborate and complex designs in fine silk and gold thread, strung with pearls and studded with precious stones. The canvas back is the law of reproduction; the rude design and sordid worsted are the conditions under which, in the lower worlds, this law is operative; the costly and artistic surface represents the grades of civilisation, up to the highest yet reached, which cluster round the same law in the human race. The splendid and fatal Queen of Egypt was fain to confess herself—

"No more, but e'en a woman; and commanded
By such poor passion as the maid that milks,
And does the meanest chares."

Without a just appreciation—much less common than it ought to be—without a minute analysis of the subtle phases of thought and feeling, whose effects pervade the whole female organism, it is impossible to comprehend many of the cases with which we ordinarily meet. Still more is it impossible to advise with wisdom in the rarer, but still not infrequent cases, where upon our judgment and discretion hang, perhaps, the lasting happiness or misery of two lives. Only an inane prudery then can refuse to enter into a free examination of the relations of this law to "those delicate vessels in which are borne onward through the ages the treasures of human affection."

The reproductive cycle can, and indeed for the purpose of study must, be divided into stages. The time at our disposal would not suffice for even a superficial glance at each of these. I purpose, therefore, to confine myself to one, the first or preliminary stage, meaning thereby the transition of the girl into the nubile woman, and the nubile condition up to the time of marriage, which is the conclusion of the first stage. It must be borne in mind that classification is beset by difficulties from which there is no escape. Nature may be said to delight in curves; classification, on the contrary, rejoices in straight lines. "How can two walk together except they be agreed?" Nature refuses to agree to delimitation of territory, or to submit to a scientific frontier. It is as impossible to square the circle of nature, as it is that of the geometer. We shall, therefore, find that much which we have to consider does not exclusively appertain to this "preliminary stage." Though the circumstances and condition of the antenuptial period conduce in an eminent degree to the development of certain disorders, yet these are seated deep down in woman's nature and constitution, and therefore the tendency to them is never eradicated.

The mother, within certain limits, the most subtle of observers, the nurse informed with maternal instinct, will often point out psychical differences between the male and the female infant: it may be that such are perceptible even to the duller vision of man.

In childhood, the yearning of the girl for her doll, and that of the boy for ruder diversion, presage still more clearly the subsequent divergence of the paths of each. The submission of the girl to the brother's will, her admiration and respect for his greater physical power, her general acknowledgment of his superiority, are not the outcome of an artificial state of society, but the mark of the differences of organisation, which nature has conferred, in order that each may hereafter be in accord with her reproductive laws.

With the advent of puberty, the psychical differences previously foreshadowed become clear and distinct, and there are also added physical differences, which it is unnecessary to specify. The esta-

blishment of puberty in the female is, as we know, often not unattended with derangements of the physiological equilibrium. Mothers too often are uneasy at what they consider undue retardation of the special feature of puberty, and this is a matter upon which, as you know, our advice is often sought. These cases may be usefully divided into four categories, namely:

1. Well developed, strong, healthy girls.
2. Girls in other respects healthy and strong, but of backward development.
3. Well developed, but more or less unhealthy girls.
4. Ill developed, and more or less unhealthy girls.

Before referring more in detail to these cases, let me offer a few words on the menstrual function generally.

We know that much has been written on the differences between the catamenial secretion and blood. That the distinctions made are just from a clinical point of view, I am willing to admit. But I none the less firmly maintain that, from a clinical point of view, this discharge is a veritable hæmorrhage, and that this is a cardinal fact which can never, with safety, be overlooked in practice. That there are cases of menorrhagia which, no one would dispute, are to be regarded as hæmorrhages, I assume. And who, I would ask, is prepared to fix the boundary which separates these from ordinary, or even from what are reckoned as insufficient, catamenia? What, then, are the systemic effects of loss of blood? These depend upon the quantity lost, the frequency of repetition, the state of the individual at the time, and no doubt to some, possibly to a large, extent upon idiosyncrasy. The effect of repeated losses depends, further, on the activity of the blood-making organs, and their power to restore the hæmatic equilibrium. It is consistent with our knowledge of these effects, as derived from examples both of spontaneous and of artificial hæmorrhages, that the loss of a few ounces of blood should be a matter of indifference to a healthy person whose blood-producing apparatus was normally active. It is, therefore, quite comprehensible that an average catamenial evacuation, reckoned at about five ounces, should not produce any very sensible effect on healthy women.

On the other hand, in persons already the subjects of anæmia, whether that be due to spontaneous hæmorrhage, to artificial hæmorrhage, or to some more recondite cause, the effect of further loss of blood, in quantity even less than that of an average menstruation, is often seen to produce very distinct effects. Without going into details, it may be said that the new hæmorrhage removes the symptoms which had resulted from previous hæmorrhages. This may happen time after time, but with a difference: the difference being that each time the period of relief is of shorter duration; that is, the symptoms return sooner, and probably with an increased intensity. Ultimately, a time comes when the hæmorrhage ceases to be followed by any relief; or if by any, it is so slight and so transient as to be difficult of discernment.

Now, I affirm, after very numerous inquiries, extending over many years, that the effect upon an anæmic girl of an ordinary catamenial loss is strictly analogous to that of other hæmorrhages upon similar subjects. There are two standards by which the amount of loss may be adjudged to be normal or abnormal. One is by comparing it with the average loss of women. The other, and the more important, is by comparing it with the usual loss of the individual herself. But I go further, and say, that an evacuation subnormal in amount, by whichever standard it is measured, is capable, under certain circumstances, of not rare occurrence, of producing similar effects. This is the case even when, in addition to being subnormal in amount, the loss is subnormal in colour. The accuracy of these observations may readily be tested by each one of you for himself. But the critic must be familiar with the effects of the repeated loss of blood, even in small quantities. He must, further, be prepared to make a minute and exact inquiry into the clinical history of his patient. And, lastly, he must enter into the investigation with an unbiassed mind, not prepossessed with the idea that, because the periods are apparently normal or even deficient in quantity or colour, it is impossible for them to produce the effects of a hæmorrhage.

But, it may be said, granting the accuracy of my observations, do they prove that the anæmia of girls is due to the repeated loss of blood by the catamenia? To this I would answer, in the first place, medical authorities are not agreed to offer us any other explanation, or rather they are agreed to offer us none, and to say that none is known. In the second place, I would ask you this question. If you met with a case of anæmia, in which there was habitual loss of blood by hæmorrhoids, by epistaxis, by hæmorrhage from any other mucous membrane, would you refuse, because the loss was comparatively small, to admit that it was the cause of anæmia, and to base your treatment upon that view? To carry, not my argument, but my statement, a little further, I may add that cases are not unfrequent in which the first period produces anæmia. And on this point let me mention a very frequent source of fallacy. A mother, when she brings her child to us under these circumstances, very often says that she does so because she has never been regular: whereas, in a considerable number of instances, minute inquiry will elicit the fact that there has been one, possibly that there have been two or three periods; and what the mother means is that menstruation has not been "regularly established." Older females will often lead us astray by stating that they have not been regular for so many months, meaning, not that no period has occurred, but that it has been deficient in some respect; indeed, sometimes they will make the same statement when the loss has been, in their own opinion, excessive. Again, we meet with females of all ages who, disliking to be interrogated upon this subject, or upon the state of the bowels, or (perhaps even more frequently) upon the state of the urine, will deliberately try to put a stop to our

inquiries, by telling us point blank that in those respects there is nothing whatever the matter with them. These and such like mis-statements, prompted no doubt by a sense of delicacy, may, by misleading us, be most injurious to those who make them. To revert to the subject of anæmia, that term, and not chlorosis, has been used advisedly. That all cases of anæmia in young women are not to be correctly styled chlorosis, may be admitted. But does it necessarily follow that they differ in kind? It is held by some authorities that they do; and we are, by some, told that chlorosis is a neurotic disease. That is a term which, in this connection, does not convey to my mind any distinct meaning. To those who use it, it conveys only, so far as I can make out, the idea that the disorder depends primarily upon some as yet undiscovered aberration of some at present unknown nervous centre. Undoubtedly, attenuation of the blood may arise from other causes than direct loss of it. Amongst these may probably be included mental depression.

As a matter of fact, disturbances of the physiological constituents of the blood-mass do in different persons produce different effects. If the general influences of the blood on the tissues be impaired or interfered with, some tissues or parts will suffer more than others. One general characteristic of neurotic persons is instability of some nerve-centre. This instability is reputed and with justice, to be aggravated by innutrition of the unstable centre, due either to local or to general causes.

It is not, therefore, so very improbable that we have here the secret of the reputed dependence of chloranæmia upon nerve-disorder. A formidable objection to this theory will at once occur to many minds; cases of chloranæmia with amenorrhœa, in which a return of the period is followed by an amendment in other respects, which previous treatment had failed to procure.

I pass by the explanation that possibly the flow was the first expression of returning health. It must be kept in mind that the effects of loss of blood are of two classes: one, the depression of the system at the time; the other, the totally opposite condition of "hæmorrhagic reaction."

Probably in no disease would the use of venesection be more unanimously reprobated, be regarded as more inconsonant with modern views, than in long lingering subacute rheumatic fever. Many years ago, a physician, than whom no one was more profoundly acquainted with symptomatology and with the therapeutics of the old school, no one a more acute observer, the late Dr. Eccles, made to me an observation which seemed to me then, as it seems now, a most remarkable one. It was that, in several such cases, which had thwarted his best advised efforts, recovery, speedy and complete, had followed venesection.

Another consideration is by no means unimportant. While a disastrous disappointment may be concealed, so, on the other hand,

may be the renovating buddings of hope; hope based oftentimes on circumstances so commonplace, or attentions so trivial, as to escape the observation of the most sympathising and watchful relative; hope sedulously concealed from the most intimate and trusted friend; hope almost unconsciously entertained by the patient herself. We are thus constantly left in ignorance of that indisputably most potent factor in the well-being of a girl—the “state of her heart.”

It seems to me a truism, the formal statement of which almost requires an apology, that a repeated loss of blood must produce anæmia, unless the system be able in the interval to replace that which has been abstracted. Protracted clinical observation has made it appear to me just as true that, as a matter of fact, the system is in innumerable instances unable to effect this replacement; that, indeed, it is not unfrequently unable for a time to replace that which is lost by a first, even if small, menstruation.

The following quotation from one of the greatest clinicists of this century commands at least respectful consideration. “I may add,” says Niemeyer, “that, according to my observation, obstinate chlorosis attacks all young girls without exception in whom the menses have appeared in the twelfth or thirteenth year, and before the development of the breasts and pubes:” that is to say, before the blood-forming apparatus is sufficiently active to do more than replace blood consumed in ordinary wear and tear.

It will be here convenient to remark that probably race and climate, and also, no doubt, other conditions, have something to do with the development of anæmia and the phases of chlorosis. During the first six or seven years of my medical life, I was familiar with the practice of the Derby Infirmary. A notable feature there was the number and severity of these cases. Nor did this circumstance seem to be entirely due to the fact that the patients were many of them employed in the large, hot rooms of silk-mills.

When I came to Birmingham as house-physician to the General Hospital, I was struck by the comparative infrequency of severe cases. And although no doubt a good many minor cases applied for relief, these did not seem to me at all proportionate to the difference in the population, and in the number of patients.

It is interesting to observe that the opinion of American writers is very strongly in favour of the neurotic theory of chlorosis. Now, so far as I have had opportunity of forming an opinion, it is that among the inhabitants of the United States are to be found an eminent proportion of neurotic constitutions. There seems, at any rate, reason to think that here, as elsewhere, the justness of our ultimate conclusions is likely to be proportionate to the breadth of our survey. Indeed, it seems to me to be antecedently probable that the secondary, or more remote effects, should be different in those whom we call neurotic subjects, from what they would be in persons whose nervous system is differently constituted.

248. HYSTERIA, and its Relation to Diseases of the Uterine Appendages. DR. S. C. GORDON, in the *Journal of the Am. Med. Ass.* No one man from his own experience is able to fully represent in language the various and ever changing symptoms of this bane of the profession. I am well aware that in presenting this subject before you a smile of derision may almost unconsciously come, and a degree of surprise be manifest at the presumption of one who would attempt to evolve anything that might be new or interesting out of such a threadbare theme. And yet, when we find one of the modern writers on nervous diseases making the confession that "hysteria contributes absolutely nothing to the science of morbid anatomy," we are fully justified in advancing any theory that has a semblance of reason, especially if we can present any evidence that in the remotest degree will appear to sustain that theory. The absolute in our profession may be very limited, but the probable is almost indefinite. The sum total of medical science and knowledge rests upon the basis of this limited absolute and indefinite probable, the former having for its foundation principally anatomy and physiology, while the latter has the accumulated experiences, and observations and experiments of thousands of educated students, through thousands of years. To the mass of the practical minds of these students the latter is as valuable as the former. When we find, after a series of experiments, that a constant result is reached by a continued course, we must finally admit that there is a relation of cause and effect. By countless multitudes of practitioners it has been found that opium is the antidote to pain, that quinia is antipyretic and that chloroform is anæsthetic. These and many other now well accepted facts in the profession came to us, not by any inductive reasoning, but by the more common mode of experiment and close observation. Applying the latter method, together with what has come to us through the well known principles of physiology, to the disease known as hysteria, I believe we can at least make some little progress towards "contributing *something* to the science of morbid anatomy."

At the risk of being prosaic I must briefly allude to some of the more prominent symptoms of this classified disease. I am quite sure I shall not challenge very much discussion on this point, even if I incorporate into my description nearly every symptom of human suffering known to medical science. Their name is legion; I will use those necessary for the several illustrations. Sydenham thus describes the multiform manifestations of hysteria: "A day would scarcely suffice to reckon up all the symptoms of hysterical diseases; so various are they and so contrary to one another, that Proteus had no more shapes, nor the chameleon so great a variety of colors, and I think Democritus was pretty right (though he mistook the cause of the disease) when he wrote in an epistle to Hippocrates, that the womb was the cause of six hundred miseries, and of innumerable calamities. Nor are they only very various, but also irregular, that they cannot be contained

under any uniform type, which is usual in other diseases, for they are, as it were, a disorderly heap of phenomena, so that it is very hard to write the history of the disease." His only explanation of the fact that women have the disease so much more frequently than men, is that "kindly nature has bestowed on the former a more delicate and fine habit of body, having designed them for an easy life, and to perform the tender offices of love." His "confusion of spirits," too many of them "collected in a crowd," and that the "ataxy of the spirits has vitiated the humors," seem hardly a sufficiently lucid explanation of the etiology of the disease, in these modern days of exacting pathology, and yet it was nearly if not quite as satisfactory as any of the many theories of our later pathologists: "It is nothing but an attack of hysterics;" "she is only nervous;" "let her alone and she will come out of it all right;" "isn't this hysterical largely?" "surely there cannot be any organic lesion," etc.

Perhaps no better modern history of hysteria has been written than that of Hammond in his "Diseases of the Nervous System." In the first paragraph under the head of symptoms he says: "The phenomena of hysteria may be manifested as regards the mind, sensibility, motility and visceral action, separately or in any possible combination. Thus it is not uncommon to meet with cases in which the only evidence of the disease is seen in abnormal mental action; others are characterized solely by derangements of sensibility, such as hyperæsthesia or anæsthesia; others by aberrations of the faculty of motion, such as paralysis, spasms and contractions. Again, all these categories may be witnessed in the same person, giving rise, among other phenomena, to coma and convulsions; and again, some one or more of the viscera may be deranged in their functions, and thus the appearance of organic disease be simulated."

These mental symptoms are so very various that any attempt to recite them would be a history of the whole class of mental diseases, from the slightest emotional disturbances to the most violent exhibitions of joy or grief, entirely disproportionate to the cause, to be followed, perhaps, by the utmost indifference to all surrounding influences. That the will to a great extent loses its power, at times, no one familiar with these cases can for a moment doubt, although under the influence of some strong exciting cause, the patient suddenly acquires the lost volitional power. Illusions and hallucinations of all kinds and degree occur in many of these cases, and we find most striking illustrations of the most complete aberrations of the special senses. "Images are seen where there is nothing, voices are heard where there is absolute silence, odors are smelt where there is nothing to smell, and strange tastes are perceived where the mouth is empty." The vagaries of the intellect are not less strange than of the special senses. The perceptive faculties are often most wonderfully sharpened, while the reasoning powers and volubility are remarkably increased. As often we find the most brilliant intellects dulled and the conversational

powers almost entirely wanting. The principal points of difference between this and insanity seem to be the less duration of the phenomena and less power to influence the patient's actions.

In the deranged sensibility we find all degrees of hyperæsthesia and anæsthesia, the most common seat being the skin, in the region of the mammary glands, face, throat, extremities, and especially about the head in the form of headache. Hammond quotes Briguët as saying that "out of 356 hysterical patients 300 were constantly subject to headache." Neuralgia in all its manifestations, in all parts of the body, may thus exist, without our being able to give it a definite origin. Anæsthesia, with a corresponding loss of feeling in all parts of the body, may exist, and even the special senses be affected to the point of producing blindness, deafness, loss of taste and smell. I have seen some very remarkable cases of blindness due to reflex disturbances of the genital organs, which were at once relieved by appropriate treatment of these lesions.

Hysterical paralysis, as manifested in hemiplegia, paraplegia, or, much more limited than either, aphonia spasms, tonic and clonic, may affect almost every muscle in the body, continuing a long time, and simulating organic lesions in muscles, joints, and mucous membranes.

The functional actions of the viscera are by far the most surprising manifestations of hysteria, and frequently the most persistent and distressing. Of all these perhaps there is no one more commonly affected than the stomach. Hammond says this seems to be the "favorite organ," and this is in accord with my own experience. The most obstinate vomiting, persistent flatulency, and all the various distressing symptoms of indigestion characterize a majority of the cases under my own observation. The disturbances of function of other organs, like the heart, lungs, intestines, kidneys (with their inordinate secretion of limpid urine), the bladder with retention and incontinence of urine, the obstinate constipation of the bowels, are all familiar to every practitioner. The various forms of convulsions, attended with more or less loss of consciousness, bearing oftentimes a strong resemblance to epilepsy and tetanus, chorea or catelepsy, but distinguished from them by lack of consistency and constitutional disturbance, become the most distressing to witness and the most exhausting in their effects upon the nervous system.

The functions of the uterus suffer in every conceivable manner, from complete cessation of the menstrual flow for months at a time, alternating with the most frequent hæmorrhages, either very scanty (lasting but a few hours), or the most alarming in quantity. The pain and general nervous symptoms, as a rule, are most marked previous to the flow, oftentimes for many days, and these are so severe as to indicate with certainty the approach of the period, even if the patient had no other definite means of knowing it. I think this an important diagnostic element. More rarely we find the exhaustion consequent upon the excessive hæmorrhages produces the well known hysterical con-

vulsions, so familiar to every practitioner. The week preceding and following the flow (including it) is the time during which we may expect, and in fact find the most of these nervous phenomena. In many cases the remainder of the month may be comparatively free from any suffering whatever, especially in early life. As age advances, however, the periodical suffering leaves its impress upon the entire system. Not infrequently we find, as a result of the long continued nervous symptoms, marked changes in the facial expression, and a dull, listless melancholy rests upon a countenance once bright, animated and cheerful. The skin suffers especially, in many instances. Eruptions of various kinds, especially acne, appear, often to a degree that is disfiguring and loathsome to the patient. Alternations of color occur, so that in a few hours we find the most ghastly pallor, followed by a deep mahogany color, which may and in many instances does continue for several hours. In several cases under my own observation this latter symptom has been very marked, so that I now look upon it as a prominent diagnostic feature.

249. SARCOMA and Carcinoma in the Breast, Differential Diagnosis of DR. TILLAUX in *Medical Times*.—I take this occasion to make for you the differential diagnosis between them, as there is often a certain confusion made by those who have studied the old classification of Velpeau. Thanks to modern pathological histology, we can make the distinction aided by clinical facts.

“1. *March and Mode of Development*.—Sarcoma increases much more slowly, particularly at first. It may remain stationery for years; I once operated upon that Nélaton had been consulted for some twenty-five years before; but when it does once take a start it will grow much faster than carcinoma, owing to the cystic cavities that develop in its interior.

“2. *Exterior Configuration*.—This takes in the form and volume. A confirmed sarcoma is unequal, lumpy on the surface. This is not the little unevenness you will notice in carcinoma, but big lumps as large as a hen's egg, or larger. Then the entire mass in sarcoma is detached in the form of a pedicle, which is not so in carcinoma, as there it is, as it were, flat on the chest. Sarcoma will grow to twelve or fifteen pounds in weight, but you will never see a carcinoma of such a weight.

“3. *State of the Skin*.—In carcinoma the skin becomes rapidly attached to the deeper parts; in sarcoma the adherence is much later. In carcinoma this gives rise to a tractus that is seen leaving the tumor and going into the derma, and when the skin is pinched up it gives rise to the sign known as ‘orange-skin.’ In sarcoma the morbid product approaches the skin and makes it thinner and thinner, just like an abscess that wants to break, and the skin is distended; in carcinoma it is retracted, drawn in, giving rise to the appearance of a quilted cover. In sarcoma the integument is often marked with large veins; this is not seen in carcinoma, but you do see white lines, which Dr. Labbé says are lymphatic varices.

"4. *State of the Nipple.*—In carcinoma the nipple retracts, and the end of the nipple seems to be absorbed. This is not so in the usual form of sarcoma, where it is not modified, except that it may be stretched somewhat.

"5. *General Aspect.*—They both have a tendency to ulceration, but the process is quite different. In carcinoma the skin fuses with the tumor and is destroyed; in sarcoma it gives way only by pressure of the lumps on its internal surface that belong to the morbid tissue. From these facts you will see that the ulcerated surface is quite different: in the carcinoma the border of the ulceration is hard and continues with the tumor, but in sarcoma the border is thin and loose: it is about the same difference that exists between hard and soft chancre.

"6. *Consistence of the Tumor.*—In carcinoma it is hard, or at least firm, while in the other form it is much less so; but, above all, there are soft parts in the sarcoma, and even liquid parts from cysts inside.

"7. *Connection of the Tumor with the Mammary Gland.*—From the first, carcinoma fuses itself with it, while sarcoma will remain distinct from it, so that the gland is not destroyed, but simply flattened and atrophied.

"8. *Connection with the Deep Parts.*—Carcinoma will adhere quickly to them, to the pectoralis muscle in particular, but the sarcoma remains apart from them.

"9. *Extension to the Lymphatic System.*—From the first the carcinoma will go to the glands, and the sarcoma hardly ever does so.

"10. *Return of the Tumor.*—Carcinoma will come back much more certainly than the sarcoma, and carcinoma will mostly return at a distance, while the sarcoma will come to the same place.

"11. *Influence on General Health.*—Carcinoma destroys it quickly, and it is very remarkable to notice that a sarcoma may be operated upon several times while the general health of the patient will remain satisfactory.

"12. *Symptoms.*—Carcinoma is generally painful, and sarcoma indolent.

"13. *Rules for Operating.*—In sarcoma, even the smallest, take away a portion of the healthy part also. I used to content myself with simply extirpating them, but I now recognize that it is bad practice; it is not needed to sacrifice all the gland, but to pass well over the limits of tumor. Again, it is possible, as you will see me do to-day, to measure beforehand a flap of the skin and cover the wound completely and get a re-union by first intention. This cannot be done in carcinoma, owing to the alteration of the skin itself."

In closing, let me give a formula that Dr. Guibout gives to stimulate the action of the digestive organs and increase appetite:

R Sulphate of strychnine, 0.02 gramme;
Syrup of mint, 30 grammes;
Distilled water, 150 grammes. M.
S.—Tablespoonful before meals.

250. HEART, THE RELATIONS of the Reproductive Organs of Women. DR. E. M. HALE in *The Medical Era*.—From childhood up to the age of twelve or fourteen, there is little or no sympathy between these two organs. The uterus and ovaries lie dormant and undeveloped. But before puberty sets in, or before the girl begins to show any symptoms in her mind or body, which betoken to the observer the advent of womanhood, there springs up between the ovaries and the heart a secret and wonderful sympathy. By means of some mysterious influence, originating in the developing ovaries, the heart is stimulated to a new and more rapid growth. Its nervous connections with the brain and its own nervous system becomes more irritable and active. It beats with a new force and frequency and, in most cases, an unwonted regularity is manifested. It becomes sensitive to impressions from within and from without which never before affected it. It is influenced by the emotions, and comes more fully under the domain of the brain than before. Palpitations occur from the slightest mental and physical causes. It suddenly sends a torrent of arterial blood to the face, causing a phenomenon, known as blushing, or even over the whole body, coloring the surface a crimson hue. Girls rarely blush before the age of puberty, and the age of true blushing declines after puberty is fully established. It occurs again during pregnancy and also at the change of life, for at these epochs the heart is enlarged and its nervous system becomes hypersensitive.

During the first years of my studies of the diseases of the heart, and more frequently of late, I have had many young persons of both sexes sent to me by parents and physicians supposed to be sufferers from diseases of the heart. I find them subject to palpitations, irregular action, pain and oppression in the cardiac region, and many other symptoms leading to a suspicion of heart disease. I found, however, that medicines made little or no impression upon such cases. Carefully selected remedies would modify and palliate, but not remove the symptoms. I was led to a more careful investigation of such cases, but found to my surprise that the authorities on heart disease were almost silent on this subject. It was only by a series of careful observations, extending through many years, that I satisfied myself that this supposed cardiac trouble was generally physiological. I mean by this that the excitation and actual increased growth of the heart was due to influences transmitted to it by the developing reproductive organs. Yet this condition has doubtless been treated for hundreds of years as an actual disease, under the name of hypertrophy and nervous disorders of the heart.

Unless this condition occurs in scrofulous girls, or those who have had acute rheumatism, it requires but little medical treatment. The physical habits should be regulated. It should be seen that the menses are regulated, that leucorrhœa is not allowed to get established. Undue exercise should be forbidden, especially dancing and skating. The emotional nature should be restrained. Too much music and

novel-reading must be condemned. Late hours and the too promiscuous mingling of the sexes at balls and dances should be prohibited. If not, seated cardiac disorder may result. This epoch once safely passed, the woman rarely suffers with cardiac trouble, unless disease of the uterus or ovaries obtain.

But a displacement of the womb, a flexion, a congested or abraded cervix, or irritation of any kind, may and often does cause cardiac disturbances of great intensity. Ovarian irritation of various kinds has the same effect.

In investigating cases of heart trouble, I try to trace the symptoms back to some cause of a definite character. I often find the initial symptom to be a uterine or ovarian disorder. Such cases come under the special care of the gynecologist, for it is of no use to prescribe cardiac remedies except as palliatives, until the local uterine or ovarian irritation is removed. It must not be forgotten, however, that sometimes these cardiac disturbances, if they have existed for some time, will persist long after the original cause is removed, and then cardiac remedies may become permanently useful.

I have found, also, that if a woman is suffering from chronic disease of the reproductive organs has a weak and diseased heart, the local disorder cannot be cured until the heart's integrity is restored sufficiently to supply these organs with plenty of blood.

The next great epoch in a woman's life wherein we find a reflex irritation of the heart from the reproductive organs, is during pregnancy.

I have been informed by some women that they became aware of conception, soon after it occurred, by a peculiar action of the heart.

All through the period of gestation, palpitation, flushing, sudden blushing from very slight causes are observed.

"The enlargement of the uterus and the necessity of carrying on a greatly increased circulation in its walls during pregnancy are attended by a temporary hypertrophy of the heart. According to Robin, it is mainly the left ventricle which is thickened during utero-gestation, and the increase in the weight of the heart at full term amounts to more than one fifth. After delivery, the weight of the heart soon returns to nearly the normal standard."—*Flint; Physiology.*

"Hypertrophy of the heart has been attributed to pregnancy by some writers. Thus, in 1828, Lacher announced, as the result of his examination of one hundred and thirty healthy women who had died in child birth, that the heart was hypertrophied in all; the left ventricle, which was the part affected, being increased in thickness from a quarter to half an inch."—*Hayden on Diseases of the Heart.*

"Lacher's observations have been confirmed by the clinical investigations of Duroziez, who found that the greater the number of pregnancies, the more permanent the enlargement. He asserts that the enlargement continues through the whole of the lactation period."—*Reynold's System of Medicine; Gowers.*

"As a necessary corollary to the increase of the total blood supply in pregnant women, the maintenance of the circulation would require either greater frequency in the contractions of the heart, or that the entire quantity of blood entering the ventricles during the diastole should be increased. Now it is known that the frequency of the pulsations of the heart remain unchanged. For the alternate contingency, however, the dilatation of the cavities becomes a necessity. For the same reason the arterial tension is increased, imparting a fullness to the pulse. The interposition of the enlarged and multiplied vascular channels in the pelvic organs increases the labor thrown upon the heart, in response to which an eccentric hypertrophy of the left ventricle takes place."—*Lusk's Midwifery*.

The deduction from the above facts are clear and practical. The woman who enters the pregnant state with a sound heart should strive to keep it sound by careful regulation of exercise and hygienic methods. The woman who enters this state with an unsound heart, be it functional or organic, needs to exercise all possible care or grave results may follow.

A physiological hypertrophy may be made abnormal by a heavy meat diet. The quantity of blood is in excess. This stimulates the heart to a more powerful action. The blood proper in the brain, lungs and kidneys is increased to an abnormal extent and apoplexy, pulmonary hemorrhage or Bright's disease may result.

The diet is an important factor in such cases. A sound heart, undergoing normal enlargement in pregnancy must not be stimulated by nitrogenous foods or alcohol. The proper food is vegetables, cereals, fruits, bread, rice and the hydrocarbons, except those which abound in sugar. Unusual exertion, sudden and severe, and all intense emotions should be avoided.

The dress should be perfectly easy and loose. Not one ounce of pressure should be allowed around any portion or the body or extremities or neck. The blood must be allowed free access to and out of all the organs and tissues of the body. These rules are all the more important if the pregnant woman has a feeble heart, or one with the slightest valvular defects. The only difference in diet will be to allow more nitrogenous food, frequent saline sponge baths, massage and plenty of fresh, pure air.

A weak heart during pregnancy often causes dropsy from stasis in the venous system. This should be carefully looked after. The new discoveries of late and medicinal agents, acting as cardiac tonics, enable us to aid the heart to regain strength in many bad cases.

We come now to the third epoch in the life of women in which the heart is liable to suffer from reflex irritation. This is termed the climacteric period, or "the change in life." This change of life occurs in three different ways:

- First.* By a gradual cessation of the menses. This is normal.
- Second.* By a sudden cessation.

Third. By profuse menstruation, often amounting to hemorrhage.

In the first species the heart rarely suffers, because the change is gradual and the strain upon the heart is gradual.

In the second, the sudden arrest of the habitual secretion causes an abnormal accumulation of blood in the circulatory system. The heart first feels the weight of the surplus and is overstimulated, leading to an increase in its labor and resulting in an enlargement and multiplication of its muscular elements. Thus we find in such cases palpitation, violent and forcible pulsations, active congestions to the brain, lungs and other organs. At this age, and under these conditions, we have apoplexy, pulmonary hemorrhage, Bright's disease, insanity and a host of nervous affections. The general state is one of active arterial plethora. One of the most unfortunate symptoms of this condition is a feeling of weakness which prompts the victim to resort to the use of stimulants and to heavy nitrogenous foods. They eat meat, eggs, oysters, drink beef tea, coffee and wine, and unknowingly take the very articles which tend to aggravate the plethora to a dangerous degree. The true diet should consist of fruits, bread, light soups, rice, watery vegetables, which actually lessen the amount of blood or prevent its rapid manufacture.

The use of laxative mineral waters is one of the best hygienic methods to carry off the excess of nutritive material and favors the process of destructive metamorphosis. Turkish and Russian baths are also excellent if carefully taken.

In the third species, when profuse losses of blood occur, we meet with opposite phenomena. The great drain of vital fluid deprives the tissues of their nutrition. The heart is the first to feel the loss. It derives its own sustenance from the blood, which it propels to supply the body. If the blood is deficient in quantity, the heart becomes itself anæmic, or starved, and this leads directly to a thinning of its tissues and to dangerous dilatation. Just in proportion as its propelling power is lost, the nutrition of the whole body is lost.

This condition of the heart is one of the most distressing conceivable. The victim is reduced to a state of mental and physical suffering of almost indescribable misery. Violent pain and palpitation of the heart torment the woman night and day. Sleep is interrupted by horrible dreams; exercise is impossible on account of great difficulty of breathing. Finally dropsy sets in to close the scene.

I may be allowed to suggest certain therapeutic measures which are absolutely indispensable:

First. Absolute rest; freedom from all excitement of a mental or physical nature.

Second. Abundance of easily assimilable food, with meats, peptonized beef extracts, pure wines, massage and electricity.

Third. The use of those medicines which impart tone and vigor to the enfeebled heart and to the developed nervous system. The heart is the centre of organic life. We must feed it and regulate its actions or the body dies.

251. MENOPAUSE, Treatment of Accidents of the. DR. J. CHERON in the *Phys. and Surg.* The period which is spoken of as the menopause rarely comes about suddenly, but more frequently announces itself by a gradual diminution of the quantity of blood lost each month. Certain troubles occur at the time of menstruation: all of these are doubled, lasting about fifteen days, constituting at times true metorrhagia; by and by, on the contrary, there is suppression for many months, with diminution of the flow.

The troubles of innervation and of the circulation, which are usually confounded, are characterized by nervous excitations, which are manifested by a kind of plethora, with frequent attacks of fever and pains about the face and head. Vertigo, headache, suffocation, and palpitation appear consecutively. The patients are unable to rest in a room whose temperature exceeds 10° to 12° centigrade. Some are unable to remain in company without experiencing a feeling of oppression which may even result in fainting. It is followed by supplemental hæmorrhage, hæmorrhoids, and vesical congestions of every character.

At the same time the disposition is altered, the nervous impressibility is exalted, and various eruptions manifest themselves: acne, pimples, itching. It is followed by abdominal flatulence, and often, at this stage, even when none of these manifestations have been noticed previous to this time, hysteria is developed, with a series of nervous symptoms.

The two principal methods to oppose each one of these morbid phenomena—means simple and easily borne by all patients—are represented by bromide of potassium, on the one hand, and purgatives, on the other. In short, two indications here present themselves: (1) To alleviate the vasculo-nervous troubles of the face and brain by the aid of a vascular remedy. (2) To promote elimination from distant organs, the intestines, for example. The best method of employing bromide of potassium is, in our opinion, with bitter orange peel as a menstruum.

As to purgatives, we give our preference to podophyllin, and resin of scammony, given in pill form. Some hæmorrhoidal patients, very sensitive to the action of podophyllin, stand better the action of saline purgatives.

Dry frictions every morning over the entire body, medicated baths, moderate muscular exercise daily, regular mode of living, exemption from fatigue and anxiety as much as possible; in short, a diet not stimulating and very moderate will be the best adjuvants, which must not be neglected.

252. PRURITUS vulva.—There is probably no complication of pregnancy which so much annoys the woman as pruritus of the vulva. So persistent is it at times as to even cause serious mental depression, and the remedy which shall promptly relieve it is a great boon. Dr. Atthill, of Dublin, recommends the following lotion:

R.	Acid carbolic.....	gr. xx,
	Tr. opii.....	3 ss,
	Acid hydrocyanici dil.....	3 ij,
	Glycerini.....	3 ss,
	Aquam.....	q. s. ad., 3 iv.
M.		

This is to be applied to the parts by means of a pledget of cotton thoroughly saturated with it and left in contact with the parts. The same lotion, similarly applied, is said to be also useful in pruritus ani.

We have found the application of essence of peppermint to be an efficient remedy. It must be carefully and gently applied at first, and if the smarting which it causes be very severe it may be diluted with an equal quantity of alcohol.

The *British Medical Journal* alludes to the use of balsam of Peru in this connection as a new triumph in medicine. We had occasion recently to apply it in a case of intolerable pruritus of the vulva, in a woman in the seventh month of pregnancy. The effect was exceedingly satisfactory. It is said to be equally efficacious when the anus is similarly affected. A pledget of cotton is saturated with it and allowed to remain in contact with the parts.

A physician with whom we recently conversed on this subject, declared a saturated solution of borax in laudanum, to be an infallible application, in his experience.—*Med. Summary.*

Obstetrics.

253. *DROPSY and Albuminuria of Pregnancy.* SPECIAL ARTICLE in the *Medical Press and Circular*.—A paper on the above subject was lately read before the Berliner Medizinische Gesellschaft, by Herr Leyden. The great importance of the subject, from whatever point of view it is considered, as well as the known capabilities of the writer for throwing light on it, warrant some notice of it at our hands.

He pointed out the fact that the affection was known to Hippocrates, and that Van Swieten alluded to it as follows:—"These swellings of pregnant women are of no great importance, for they disappear after labour, and they are only dangerous when convulsions are associated with them." The association between dropsy and convulsions was thus known more than a century ago. He then refers to "the celebrated English physician Laver"—probably a misprint for Lever—and the part played by him in the history of the subject.

Although he looks upon the kidney condition as peculiar and dis-

tinct from all others, he does not consider that the urine itself offers any pathognomonic signs of it. The question whether the examination of the urine and of its sediment has any decided pathologico-diagnostic significance must be answered in the negative; the diagnosis must rather be reached by the consideration of the whole factors of development and of the symptoms observed in the patient.

As regards the kidney itself, is any condition of the kidney known *post mortem* that can be classed as the kidney of pregnancy? There really seems to be no agreement amongst pathologists on this point. Frerichs and Schroeder found nothing characteristic; Rosenstein put the affection down to renal obstruction; and Bartels attributed it to acute parenchymatous inflammation. The author has himself had the opportunity of examining some kidneys from fatal cases of eclampsia with albuminuria. They were three in number, and as the condition met with was identical in all the three, one description may suffice: "The kidney was large and pale, the cortex yellowish and dull. Microscopic examination showed a very extensive loading with fat, especially in the tubuli contorti, to some extent also in the glomeruli and in the Malpighian capsules. The fat was distinctly present in large drops." He observed later after he had allowed the kidneys to remain some weeks in spirits, "that the greater part of the fat had disappeared, and that the kidney on microscopic examination had a normal appearance," from which he concludes that the fatty change was not one of degeneration, but of infiltration. No interstitial or inflammatory condition was present.

He thinks such a condition may be best explained on the assumption of a previous long-standing arterial anæmia. It also explains the rapid and otherwise almost unexplainable recovery that follows delivery in so many cases. He does not take upon himself to say that the kidneys will present the appearance described in all cases, but he does consider it not improbable that they will do so in those that have a favourable issue.

As to the causes, he thinks there can be no doubt these are the changed conditions of pressure that affect the abdomen as a whole or the effluent urinary organs, such as the ureters or bladder, and obstruct the secretion or excretion of urine. The author seems to be of opinion that large abdominal tumours present no analogy to pregnancy in this respect, for he says that "in these cases no kidney affection is ever developed as in pregnancy." But in this he is certainly in error. Kidney affections, not unlike those of pregnancy, are not by any means unknown as complications of abdominal tumours, and when they are also accompanied by dilatation of the ureters or of the pelvis of the kidney the assumption that the affection alike of the ureter and of the kidney is due to pressure is not an extravagant one. He seems to take it for granted that when albuminuria accompanies eclampsia the latter is the result of the albuminuria, and it does not appear to strike him that this is a mere assumption, and by

no means demonstrated. He acknowledges that eclampsia may occur without albuminuria, in which case it must of necessity be due to some other causes. Is it not just possible, then, that this "other cause" that is efficient in the non albuminuria cases may also be the efficient one in the cases complicated by the kidney affection. We think it not only possible, but probable.

Another question that presents itself is that of prognosis. This is on the whole favourable. In the majority of cases the albumen disappears within ten or twelve days after delivery. Frerichs says that if after fourteen days the albuminuria has not passed away, morbus Brightii is to be expected. In the majority of the author's cases the albuminuria lasted longer. Since January, 1885, ten cases were transferred from Herr Herlich's ward to his own on account of the long continuance of the albuminuria. In addition to these there were some cases of Bright's disease, and some from his own practice. In some of these cases the albuminuria diminished, but complete recovery took place in only one case. The disease may go on to granular atrophy, as he observed in two cases.

He considers such cases important, independent of the complication with eclampsia. What can be done to avoid an unfortunate termination? The question of the induction of premature labour, discussed by Schroeder, here presents itself, and according to Herr Leyden, it is one worthy of serious consideration. He acknowledges that in some cases in which it has been practiced the procedure has not benefited the renal condition. This is important to bear in mind. Two allied questions are, how long may albuminuria exist in pregnancy without the danger arising of its becoming chronic, and what is the degree of intensity that will justify the fear that it will continue after delivery? These are questions that probably cannot be answered at present. In conclusion, he notes the diminished secretion of urine and the dropsy. He considers that the first symptom is the lessened urinary excretion; from this result the swelling, the albuminuria, and the anatomical changes that take place in the kidney. If this view is correct, the point for examination will be how is the excretion of urine affected by pregnancy, whether long continued diminution of excretion of urine gives rise to dropsy, and if this passes into a chronic stage, with an accompaniment of considerable danger.

254. OBSTETRIC Forceps.—PROF. T. PARVIN, reported in *the Peoria Med. Monthly*.—Some few days ago I was summoned to the hospital by my resident, to see a woman who was in labor. The child presented in the right occipito posterior position and the pains had ceased. The propriety of using the forceps was considered. The head was still high up, but the parietal protuberances were in the pelvis. When I was a student at the University of Pennsylvania, before most of you were born, Dr. Hodge was accustomed to teach that the head should be considered as engaged in the superior strait

when the parietal protuberances had entered the inlet of the superior strait. When I reached the hospital, as is so often the case, the pains had returned and delivery was progressing as rapidly as could be expected under the circumstances of position. Now it is a somewhat difficult matter to apply the forceps to the head when it is high up and the occiput is posterior, the manipulation of application will be apt to rotate the head posteriorly into the hollow of the sacrum; therefore in such cases it is better not to apply them. I left the woman, supposing that her labor would be completed in a few hours, but alas for human anticipations, I found her still in labor the next afternoon. Now the foetal heart beat was 155 per minute and feeble and the pains were poor. Here, as sometimes will occur, nature had heeded the cries of distress that attested to the great suffering of the poor woman, and in response had stopped the pains. But the condition of the foetal heart and the evident exhaustion of the woman warned us that immediate delivery was demanded. Fortunately, spontaneous rotation had occurred and the occiput was anterior. The head was low down but not quite at the perineum. Sometimes this spontaneous anterior rotation will occur only as the head is about emerging from the vulva, but here it occurred high up. This rotation, I believe, occurs because the anterior portion of the head is more resistant. It would seem like heresy within the shadows of the University, to endeavor to explain the mechanism of rotation without enlisting the aid of the "inclined planes," so it was taught by Dr. Hodge, but I believe such an explanation to be erroneous, for I attribute it to the influence of leverage. If we take the frontal and occipital arms of the head level, we learn that the frontal are longer and possessed of greater power, so that they are held back, while the occipital, which are shorter and weaker, yield more readily to the expulsive influences.

To go back to our case; the child was delivered with forceps and the forceps was not removed as the head was escaping, as some authors teach, but was kept on until the head was fully delivered.

The forceps that I prefer is a slight modification of the Davis forceps, the modification consisting in a projection on each arm, which enables us to make traction, without undue compression. You have probably heard of the story of Emerson, who when traveling out west, found, one day, some pie before him on the table; he cut it and politely offered a piece to each person at the table, all of whom declined; placing a piece on his own plate he commenced to eat it, with the remark that he didn't know what pie was for unless it was to eat. So to apply the story to our own subject, I do not know what forceps handles are for unless to pull with. if you grasp the handles tightly, so as to make forcible traction, you are sure at the same time to exert compression to considerable extent upon the foetal head, which may prove a serious matter; you should only make just that amount of compression that is necessary to keep the forceps applied.

Remember that the bi-parietal diameter is in relation to the transverse pelvic diameter, the latter of which is greater than the former, hence this diameter is the one that is least compressed by nature in a natural delivery. To press any more than is necessary to hold, is to produce injury. Besides, by this compression you are robbing Peter to Paul, for in so much as you lessen the bi-parietal, so do you increase the occipito-frontal diameter. The power exerted by pulling on the forceps has been carefully estimated and it has been ascertained that when we pull from the shoulders alone, we exert a force of eighty-eight pounds; when we brace the body against the bed, we can exert a force of one hundred and seventy-six pounds, and it has been computed that for every two pounds of traction force there is one pound of pressure. Thus, if we pull with a force of twenty pounds, we are compressing the head with a force of ten. This is a dangerous procedure and many children have died from this compression. This *is* Davis' forceps that I show you; please note that I say *is*, for some very distinguished authorities say *are*, which is erroneous and reminds me of the school-girl composition that "a cow *are* a useful animal." *Is* is correct for we are speaking of but a single instrument; no one would think of saying this *are* a saw, or this *are* a scalpel. Now I show you three Davis' forceps and you notice that they are all different; this one came from New York and the other two were made in this city. You will notice how clumsy this one is and how abrupt is the inferior curve. This is the one I use; you notice it is light and graceful, it only weighs ten and a half ounces and the inferior curve is gradual. Some men have made forceps sixteen inches long, not quite long enough for a walking stick, nor quite heavy enough for a club, but almost. Don't get these long, coarse instruments. This forceps, which is the kind used by the late Dr. Meigs, in his long and illustrious obstetrical experience in this city, weighing, as I have said, only ten and a half ounces, will prove adequate for nearly all emergencies. It will do for the high operation, save where the head is movable above the inlet of the superior strait, in which case, version is to be preferred to the forceps.

Now, as to taking the forceps off before the head is delivered: Dr. Goodell has told you, or if he has not, he surely will before he dies, to take them off. This was the teaching of Madame Lachapelle and of the German school long before her time, so that it is no new doctrine. Now, as much as I dislike to disagree with Dr. Goodell, I must say that I do not consider it necessary or even wise to remove the forceps in the great majority of cases. You will always gain instruction from the perusal of Dr. Hodge's work, and this great teacher tells us that the size of the head is not at all increased by the forceps, but I think myself that it is slightly increased. I can hardly conceive that a man's chest would not measure a trifle more when he had a shirt on than when he was naked; so with the foetal head; so that so far as the increase in size is concerned, Dr. Goodell and those who

teach as he does are right, but the increase, I think, is very slight and as some time is consumed in unlocking and removing the forceps, nature may seize this period to expel the head, when you are not prepared for it and the perineum may thus be ruptured. Again, the head may stick, the pains vanish and a reapplication of the forceps be necessitated, which will prove a very difficult matter. Still further, by enabling you to regulate the time and manner of exit, the forceps may help you to prevent laceration of the perineum, therefore I think it is better to leave it in situ, unless you are using some of the huge forceps about which I have spoken. Those of you who were about in anti-bellum days will remember how universally the cry of "save the Union!" would be heard, and each time that congress met and each time that congress adjourned the "Union would be saved." Sincerely by some and sneeringly by others, this was the cry, "save the Union!" For centuries the cry among obstetricians has been "save the Perineum," but unlike the Union, the perineum has not yet been saved. Every little while we have some new plan suggested or some old one revived, for "perineum-savers" are relatively as numerous as once were "Union-savers." To protect the perineum there are two principles to guide us: First to guide the direction of the head in its exit, and, second, to prevent it from coming too fast. I have recently read of a suggestion where the accoucheur sits on the right side and the woman is directed to slightly flex the lower limbs, just enough to prevent putting the perineum on the stretch. One hand is placed under the near thigh and the labiæ on either side are seized by the thumb and fingers so as to approximate as it were, the perineum, now as the head emerges, the parts are drawn together and the perineum is saved. I can hardly place much reliance on this suggestion, though the author claims that having practiced it in fifty primiparæ, he has only had very slight and insignificant ruptures in but two cases. However, I think that the very position of the woman (on her back) favors rupture. Remember that statistics are very deceptive; it is said that figures cannot lie, but those of you who look at figures about election time know that they do lie. However, if we take this authors claim with a grain, or even with a good many gallons of salt, the result is so good that it will be well to bear the procedure in mind.

255. VOMITING of Pregnancy. Mechanical Treatment of.
 DR. JOSEPH JOHNSON, in the *Journal of Am. Med. Ass.*—The vomiting of pregnancy is a condition which the physician is frequently called upon to relieve, and in the great majority of cases he is either successful in his treatment, or the patients get well by themselves. There is, however, a small proportion of cases which are not curable by any treatment short of the removal of the cause; and a still smaller number which resist all treatment, abortion included, and finally starve and die.

In that class of cases usually referred to as the "uncontrollable vomiting of pregnancy," the books tell us that nearly every remedy named in the *materia medica* has been employed in the vain attempt to cure. *Some* of these sufferers are *relieved* by treatment; *some* for a time seemed to be cured, while the trouble recurs later on; *others* are not benefitted by any drug, and are sick from almost the first to the last days of gestation, but not severely so; and, as above stated, some die, either from the direct results of the continued vomiting, or from some intercurrent affection set up or aggravated by it. While in all cases the vomiting is caused by the pregnancy, this cause does not operate in the same manner in all persons, inasmuch as remedies which seem to cure some have no effect upon others; or upon the person cured in a subsequent pregnancy. For instance, *drugs* which relieve certain nervous and emotional women do not relieve patients who are not nervous or emotional, or when the special cause resides in an ante-flexed or retroverted uterus, a granular os, or a rigid cervix. So that any suggestion which gives promise of aid in this distressing class of cases would naturally attract attention, and should be given an opportunity, at least, to prove its right and title to a place upon the list.

That in certain rare cases of this disturbance, which have been called sympathetic by some, emotional by others, and reflex by all writers, the vomiting has become so dangerous to life as to demand relief at any cost, we have abundant evidence in recent journal literature and text-books upon midwifery. Thus, Barnes says that in a far larger proportion than is commonly accepted death is the termination, unless averted by abortion. "It is impossible," he says, "to state the cases numerically; but every author of experience gives examples of fatal cases. . . . The danger of the affection is sometimes doubted, and this doubt, founded on subjective ignorance, is urged as a plea against the induction of labor." McClintock, with a very moderate amount of research, says: "I have been able to collect close on fifty authentically recorded cases, and I know of others which have not been published. We ourselves have seen nine fatal cases."

Lusk, in the last edition of his now famous work on Midwifery, says (p. 126): "In general, with severe cases, the prognosis is bad;" and quotes from Joulin, who has recently reported 121 cases, with forty-nine deaths. Without treatment, of fifty-seven cases twenty-eight were fatal; with treatment, where abortion was induced, of thirty-six patients nine only died. By the method of artificial interruption of pregnancy, McClintock reports in thirty-six cases the saving of twenty-seven lives.

Grailey Hewitt, in a recent paper upon this subject, states that "numerous cases have been recorded during the last fifty years in which death has resulted from, or in connection with, the excessive and severe vomiting of pregnancy." He says that "the largest number of fatal cases observed by any one individual is twenty; and that since the practice of inducing abortion has somewhat increased in dangerous vomiting, the number of fatal cases has decreased."

As the advocates of the mechanical mode of treatment almost deny the agency of the stomach in the vomiting of pregnancy, and claim that the administration of medicines *per ovum* or *per rectum* is of no avail, and are consequently worse than useless—as they consume valuable time—I thought that it might be profitable to consider in a group by themselves the principal mechanical methods in the practice of which drugs are excluded as unnecessary.

As I recently had an opportunity of testing the merits of Copeman's method by dilating the *cervix uteri* for the relief of an aggravated case of gravid nausea and vomiting I have written out the main points of the case, which are as follows:

Case.—Late in the evening of January 7 I was called to see Mrs. X., on account of uncontrollable vomiting which had resisted all treatment for more than a month. Her husband gave me the following history of the case, as near as I can recollect it: His wife had missed her period just two months. For the first three weeks she had not suffered unusually, but after that time her sickness increased, and from troubling her in the morning, it gradually became worse until, at the end of her first month, she was vomiting throughout the entire day; and it soon became so constant that she found no relief at night. Indeed after another week it was worse at night than during the day. For a month a physician had been in attendance, and part of the time two. They did everything they could with medicine to control the vomiting, but without success. Finally Mr. X. informed me, the doctors thought everything had been accomplished which lay within the power of drugs, and fearing the lady would die if not soon relieved, they suggested that an abortion be induced in order to save her life. This suggestion was agreed to, and several ounces of ergot were administered, only to be vomited as soon as swallowed, and without producing any other effect. So the patient was one day placed in position with her buttocks at the edge of the bed, and "some fluid was injected with a small syringe into the uterus." He informed me that he called at his physician's house, and after waiting some time, not finding him at home, wrote him a long letter expressing his views of the case, and announced his intention of changing physicians and courteously requested his bill.

After this statement I took charge of the case and examined his wife. I found the pregnant uterus somewhat prolapsed and anteverted. I corrected this displacement by digital manipulation, but as no relief followed, I directed the patient to take absolutely nothing into her mouth, and that she be fed entirely by the rectum. I also directed that she have, in addition to her milk and beef-tea, large doses of the bromide of potassium with a little brandy and about 10 drops of laudanum, to prevent rectal irritation, every four hours.

When I called on the morning of the 8th I found that my directions had been strictly obeyed, but the patient was no better. Indeed, she had vomited all night, and some of the time had been quite delirious.

She had a dry, brown tongue, and cadaveric odor to her breath. She had been in bed four weeks, and both wife and husband asserted positively that for a month no food had been retained, and for the week previous to my seeing her she had taken nothing but ginger ale. Her condition and appearance confirmed this statement. Her face was somewhat swollen, but her body and limbs were greatly emaciated. She had been unable to get out of bed for two weeks, and had the greatest difficulty in raising herself on her elbow to vomit, and some of the time the vomited matter was caught on towels as it was ejected from the side of the mouth. I persisted for twenty-four hours more in the use of remedies, mostly by the rectum, but had small powders of calomel, oxalate of cerium, ingluvin, bismuth, and finally morphine, in turn placed on her tongue. The vomiting went on just the same. I told the husband there was one other remedy which I wished to make use of, introduced and successfully practiced by Copeman, of Norwich, Eng., and if that was not successful I would ask for counsel, and if agreed to, would put an end to the pregnancy, as I believed his wife would soon die if not relieved.

In the *Brit. Med. Jour.*, for May 15, 1878, Dr. Copeman published an article entitled "Dilatation of the Os Uteri for Vomiting in Pregnancy," in which he claimed that most, if not all such cases should be cured by the dilatation of the muscular fibres of the neck of the uterus—including those of the internal os in cases in which a less dilatation failed. Several confirmatory papers soon followed notably one from Sims, in 1880, and one by W. Gill Wylie. The recent works of Lusk and Barnes recommend this practice as a proper and justifiable mode of treating these cases, and on the morning of January 10 I dilated the cervix uteri with my finger. I found it impossible at first to insert my finger, and therefore, fixing the cervix with a fine tenaculum, I expanded the fibres of the external os with the blades of Bozeman's uterine dressing forceps. I then proceeded with my finger, and with a pushing and boring motion stretched the cervical canal until it admitted my index finger to the internal os, but not through it. I found tight, unyielding circular bands at the external os, and also near the internal os, which finally gave way. There were but a few drops of blood, and those came from the puncture of the tenaculum.

I continued the rectal injection of food, and when I called in the evening I found that the patient had vomited but once, and that she was feeling very comfortable, and much encouraged. The vomiting was occasioned by the drinking of a tumbler full of milk just before my arrival. The stomach had been perfectly quiet since the dilatation; the patient began to feel hungry, and, thinking herself cured, indulged in this full glass of milk, with the result stated. She vomited none that night, and the next morning could take food without the least nausea, but she soon began to have pains, and by night regular uterine contractions set in, and by midnight of the 12th instant she miscarried a two months foetus. The next day she ate freely of lamb

chops and milk toast, and has not vomited since, and was soon up and walking about the house.

The theory of Copeman, that this form of vomiting is produced by the failure of the rigid fibres about the internal os, and in the cervix uteri, to soften and dilate under the influence of advancing pregnancy, finds some confirmation in the occurrence of nausea and vomiting which so frequently occur to women in labor. As uterine contractions occur and continue, producing the physiological softening and dilatation necessary for the passage of the child through them, repeated vomitings take place. This has been considered so usual and necessary an accompaniment of the average normal first stage of labor, that in cases where the dilatation was very slow or would not begin, nauseating remedies have been frequently prescribed with the hope of facilitating this process. In that form of dysmenorrhoea, also, where there is a hard unyielding, narrow cervix, nausea and the most violent and distressing vomiting may precede and accompany the menstrual periods. I have recently cured some of these cases by Goodell's method of rapid dilatation of the cervical canal, and the vomiting disappeared also.

In referring to the usefulness of Copeman's method, Dr. Gill Wylie says: "If there is a doubt about the amount of dilatation, the best test is to put the patient on her back, and when the index finger up to the first joint can be easily passed into the cervix, the dilatation is sufficient. Before resorting to abortion in any case where dilatation up to the os internum failed, I would first dilate the os internum and wait long enough to see if it would stop the vomiting; for this can be done in some cases without an abortion necessarily following.

"*Conclusion.*—1. That nausea and vomiting, or morning sickness in pregnancy, should not be considered and treated as merely one of the symptoms of pregnancy, but, as a rule, as indicating an abnormal condition of the tissues of the cervix uteri, due to imperfect development, disease, or the effect of disease on the tissues of the cervix.

"2. That any pathological state which interferes with the softening and other changes which the cervix undergoes during pregnancy, may cause nauseal vomiting.

"3. That in most cases relief is obtained by freely dilating the cervix uteri below the os internum, and in many instances it is the only means by which relief can be had. It is true that inducing abortion will give relief, but to accomplish this the cervix uteri must be dilated.

"4. That in many cases specific medicines given by the mouth are useless, and, as a rule, should not be used until a local examination is made and the indications for local treatment ascertained."

256. ANTISEPTIC Vaginal Injections in the Parturient Woman.—The whole process of child-bearing is purely a function of

health, as much so as deglutition or conception. Sickness is not an incident of this condition, but an accident, hence it is absurd to begin prophylactic treatment unless there is reason to apprehend danger. In malarial districts, when the autumn winds begin to blow, we are not surprised to meet with patients suffering from malaria. But he would be called a crank who would go around stuffing twenty grains of quinine into each of his healthy patrons as a prophylactic against malaria.

To my mind the wiser and more scientific course in the management of the parturient is absolute cleanliness, as near as possible, on the part of both physician and nurse, to leave no spots of blood upon the person, the bed, or linen of the patient; to see that the air is sufficient in quantity and pure; exclude all officious friends and visitors; avoid as much as possible all causes of nervous excitement; let the patient arise over the vessel, in bed, each day, that the vagina may be drained as nature intended it should. Use disinfectants all you are a mind to, externally, and keep the atmosphere pure and sweet, but don't be constantly injecting irritants, be they ever so mild, into the vagina of your patient, thus disturbing her quiet and interfering with her natural recuperative powers, unless there are indications of pathological disturbances. Vigilance is at all times proper, but this is the signal for active interference, and if there are suspicions that the disturbing cause is in the genital tract, send your hot water and mercuric chloride after it, at once; or, if it is in the uterus, don't hesitate to inject that organ. Meet the enemy wherever he presents himself, and you need have no twinges of conscience because of doubts as to whether you have done your duty.

The physician who follows this course, being governed by reason and a conscientious regard for the good of his patient, following no hobbies or fashions except what the requirements of each individual case demands, is the one whose work is most likely to be crowned with success.—*St. Louis Cour. Med.*

257. COUGH in Pregnancy. PROF. T. PARVIN in *Peora Med Mth.*—Here is a pregnant woman, who has had a cough for eight or nine weeks; there is not much expectoration, but she is losing flesh. Now you should always have your suspicions aroused when a pregnant woman loses flesh. The rule is that a woman will gain one-thirteenth of her weight during the last three months of pregnancy; if she loses weight, or even if she stands still or does not gain in this proportion, you can rest assured that something is wrong. The foetus is dead, or perhaps she has pulmonary trouble. We have reason to fear that this woman has tuberculosis, though she has not yet been carefully examined for this condition. The constant cough causes pain in the uterus which will in some cases cause detachment of the placenta and premature labor, so that it is essential to stop the cough. For this purpose we will give this woman two or three

drops of dilute hydrocyanic acid and one-sixteenth to one-twelfth of a grain of sulphate of morphia, in syrup. The older writers used to describe what they called rheumatism of the uterus, but I do not believe there is such a thing as true rheumatism of this organ, and I think that such cases were pain due to some traumatism, as the cough in this case. The sorrow of labor is from its exquisite suffering. A womb rendered sore from some traumatism will be exquisitely sensitive, just as would be a sore on the elbow, or any other part of the body where every motion would cause great pain. So with such a uterus; every contraction will produce great suffering, and it may even cause irregular contractions of the uterus or arrest them entirely, for nature will heed the cry of suffering humanity and reply by putting a stop to the pains. So, therefore, it is important that the soreness should be attended to, and it can be best relieved by the wet pack, putting several thicknesses of muslin wrung out of water, over the abdomen at night, and covering all with a dry towel.

258. PALPATION in Pregnancy.—This woman I bring before you, has been confined several times. I bring her in to show you what we can do with palpation in pregnancy. Remember that palpation really means *touch*; we could palpate with the big toe, it merely means touch. You can stand on either side and before endeavoring to ascertain the condition of affairs you must first accustom the abdominal muscles to the touch of the hand. Now I feel a body, irregular in form, which is the uterine ovoid. Now, does the foetal ovoid correspond to this? Yes. The next question is which end of the foetus is below and which above? When you ascertain where the head is you can be pretty sure as to the position of the feet, but it is not enough to reason out the position of the pelvis from the location of the head; in mathematics you will prove all problems and so you should in obstetrical palpation. Now, I dip the fingers of each hand, one into each iliac fossa, way down and try to bring them together; something intervenes; what is it? Now in order to make the sensations conveyed to the brain more distinct, I will use only one hand, though I have been previously using two, for the impressions conveyed when only one office is telegraphing will be more distinct than when two offices are operating. Now, I feel a round, hard body very distinctly, low down, but I must not be too hasty in saying that this is the head; the head has a back below it (or rather above it, for the uterine foetus stands on its head,) and I will look for it. There is a slight depression when the body is bent and then we pass on to the back. On one or the other side we will note a less distinct outline, which will indicate the anterior surface of the foetus. Now, I here feel the back very distinctly on the right side. You know how a man "gets his back up" when he gets mad; well, I will make this foetus get its "back up" by pressing on the two ends of the foetal ovoid. This proceeding will be very useful in doubtful cases. The

next point is that if we find the pelvis above we will know that the head is below ; but how are we to recognize this foetal pelvis—how differentiate it from the head? It will be larger than the head, more irregular in outline and we can feel the lower extremities in its close proximity. The pelvis is also more movable. In primipara the head will descend a week or maybe a month before labor, owing to the resistance offered by the tense abnormal muscles ; well then, you will find that when you press the fingers well down on either side, on one side they will go down deeply, which will be the side on which is the occiput, while on the other side their descent will be abruptly arrested by the forehead ; this will aid you to diagnose position. If, now, I have interested you in abdominal auscultation and palpation in pregnancy, I have but taught you the alphabet of this important practice and you must go on and learn by diligent study, for it is one of the most valuable means of diagnosis. A distinguished French obstetrician once diagnosed triplets three weeks before labor by means of auscultation and palpation, and it is an achievement to be proud of. The prophet ranks above judges, kings and all other men. If you can make predictions that are subsequently verified, it will not only redound to your own personal benefit, but will serve to exalt your profession. A physician can not do any good act without its redounding to the benefit of us all. Remember that we all live, as Lord Bacon puts it, “for the glory of God and the good of man.” *Ibid.*

259. PUERPERAL Eclampsia. *The Prophylactic Treatment of.* LEADING ARTICLE in the *Therapeutic Gazette*.—Therapeutics owes much to the Medical School of Vienna. Oppolzer, Skoda, and their successors have made many valuable contributions to the world's stock of knowledge of the means of modifying morbid processes. If there is one characteristic in these additions to therapeutical lore more marked than another, it is their thorough reliability. Methods for the modification of diseased action are usually tested on a large number of cases through a considerable period of time by competent observers. The *rationale* of the physiological action of a sanatory procedure is determined as far as possible, and its limitations approximately settled. Only then does the ambitious therapist announce his results to the professional public.

An example of the truth of this statement is presented in the prophylactic treatment of eclampsia in the pregnant, parturient, and puerperal woman by hot-water baths. It may not be amiss to say, right here, that in Vienna eclampsia, occurring during pregnancy, parturition, or the puerperium, is invariably regarded as a symptom of acute renal insufficiency.

The preventive treatment of the convulsive disorders of Bright's disease by hot-water baths—a very ancient method—is fully recognized by the *Allgemeines Krankenhaus*, but its greatest technical perfection, particularly as applied to women during the period of reproduction, is observed in the obstetrical clinics of Professors Carl and Gustav

Braun. Breus, formerly assistant to Gustav Braun ("Zur Therapie der puerperalen Eclampsie," *Arch. f. Gynak.*), has clearly described the plan pursued in the wards already mentioned. The patient, perfectly naked, is immersed up to the neck in a portable bath of a temperature of about 102° F. The tub is covered with heavy woollen blankets, which permit the head to protrude. The temperature of the water is then gradually elevated to 110° or 112° F. An ice-bag or a linen cloth, wrung out of cold water, applied to the head relieves the distressing cephalic symptoms which are occasionally observed at this time. Thirst is satisfied and diuresis promoted by the copious imbibition of water. The patient is allowed to remain in the hot-water bath about thirty minutes. She is then removed, wrapped in hot sheets, and put to bed between two layers of heavy woollen blankets, and covered in so that the face only is visible. Profuse perspiration soon begins, and is kept up for two or three hours. After this vigorous sweating the patient frequently falls into a refreshing slumber. If she feels faint in the bath or bed, a glassful of one of the light native wines usually restores the circulatory equilibrium. Great care is taken in the gradual cooling off of the surfaces when the woman rises from the bed. According to the indications in the concrete case, the baths are repeated from once to twice daily for an indefinite period of time. Under this simple method of treatment wonderful results are frequently noted. The troublesome headache is relieved, dropsical effusions abate, and the amount of albumen in the urine is diminished.

The query as to the effect of hot-water baths on uterine contraction naturally arises. Hot-water sitz-baths have been employed for years in all the Vienna obstetrical clinics as a simple and innocent means of stimulating uterine contractions in tardy labors. On *a priori* grounds it would seem in a high degree probable that the calling of *all* the skin reflexes into functional activity should result in the invocation of uterine contractions. Breus has not been able to observe any such effect; but then, as remarked by Sippel, chloral was exhibited *per rectum* in the cases observed before the bath was taken.

A. Sippel ("Die wehenerregende Wirkung heisser Vollbäder," *Centralblatt f. Gynakologie*, No. 44, October 31, 1885) has recently called attention to this important subject. In two cases of severe Bright's disease in pregnancy, with threatening eclampsia, premature labor followed the hot-water bath and diaphoresis within fourteen and one and one-half hours respectively. The first case, primipara, 24 years old, was in the thirty-second week of pregnancy; the second case, multipara, 27 years old, was in the thirty-fifth week.

To determine the effects of hot-water baths on the normal pregnant woman, Sippel selected a woman pregnant in the thirty-fourth week. She had a generally-contracted pelvis, and the induction of premature labor was indicated. After baths on two successive days (without the subsequent packing in bed), sensible uterine contractions occurred but gradually passed away. On the third morning the same patient was placed in the hot-water bath; pains were complained of while she

was in the water, and labor terminated normally some twenty-four hours later. The writer has recently observed the induction of premature labor to follow the hot-water bath in two cases of Bright's disease in pregnancy, with threatened eclampsia.

The possibility of the induction of premature labor under these conditions, however, is seldom a contraindication to the employment of the hot-water bath. The evacuation of the uterine contents, in the very large majority of cases, is an event for which the clinician most devoutly prays. To obstetricians who accept Robert Barnes's very advanced views, this possibility constitutes absolutely no contraindication. That distinguished obstetrician, at a recent meeting of the British Gynæcological Society, uttered words to the effect that "the necessity for inducing labor" was imperative "as soon as albuminuria was fairly established." (*The British Gynæcological Journal*.)

As a method of induction of premature labor, the hot-water bath is entirely devoid of danger from sepsis. Further trial, however, is necessary to determine its efficiency.

260. PUERPERAL Eclampsia.—DR. S. C. GRAVES, in *St. Louis Med. and Surg. Journal*.—The composition of the blood, and the condition of the nervous system, as has been demonstrated, doubtless play important roles in this affection. And, as the character of the blood in those who suffer with puerperal convulsions, with chronic Bright's disease and with alcoholic delirium is, as we understand it, essentially the same, that is, an increase in water with a decrease in albumen, and, in a marked manner of the red blood globules, we infer that the secondary cause of many of the symptoms in the disease mentioned is similar.

This hydremic condition favors transudation through the parietes of the blood vessels and exosmosis rather than endosmosis. So the effete matters would not be carried off from the tissues as when the blood is of normal tenuity, and would presumably be retained in sufficient quantity to cause considerable irritation in a delicately constructed organ like the brain, thereby assisting more potent agents in causing edema and congestion.

Frequently there are symptoms showing a disturbance of the circulation, and this may be the first intelligence we have of the approaching storm.

This blood dyscrasia, not urea or carbonate of ammonia, though a small quantity of either would act as a powerful poison in the dyscrasia described, is always present in this complication of labor.

It has been demonstrated that we may have urea in the blood and eclamptic seizures not be produced, even in the great nervous and circulatory disturbance at parturition, and as well that we may have epileptiform convulsions without the previous kidney complication.

The nervous system, notable the vaso-motor, seems prone to disturbance in such conditions of impoverished blood, easily irritated,

be the cause centric or excentric, and we infer that this stimulation of the vaso-motor nerves causes contraction of the arteries more marked in the arterioles. This would cause anemia of the brain and decided venous congestion, which anemia, as I understand, causes the paroxysm, following which we have congestion due to over-stimulation, and consequent partial paralysis of the vaso-motor nerves.

Treatment.—I agree with those who believe chloroform and chloral to be the remedies par excellence in this affection, and do not think venesection indicated unless the pulmonary edema be very great, demanding more active measures, and by observation has been, when it was necessary to resort to this procedure, that I soon had to sign the death certificate.

We have reason to believe that oxygen will prove an efficient remedy. I do not think morphine contraindicated. Amyl nitrite theoretically would seem a powerful remedy for relieving the paroxysm; but I do not think it would be called for unless the paroxysm were usually long and severe.

261. *HABITUAL Death of Fetus Due to Renal Disease.*—

It is customary to place syphilis at the head of causes of premature death of the fetus, and after this is placed pernicious anemia, chronic metritis, and endometritis. Dr. Fehling has shown that this result very frequently follows from kidney diseases of the pregnant woman. In all these cases referred to albuminuria occurred, partly in the form of parenchymatous nephritis and partly in the form of a genuine contraction of the kidneys. After the perishing of the fetus the albuminuria increased rapidly. In the placenta may be observed deposits due to infarction, so-called fibrinous wedges, the result of an ischemic necrosis. The prognosis for the child is very unfavorable; for the mother better, although in a high degree the renal affection renders her liable to death from eclampsia and uremia. The only successful therapy consists in inducing premature labor. Altogether, it would be very desirable to have further observations of the relation between placental disease and disease of the kidney.—*Deutsche Med. Zeitung.*

262. *THE INFLUENCE of Intermittent Fever on Pregnancy and on the Fetus.*—BEHRMANN, in *Berlin klinische Wochenschrift*, points out that statistics have shown that pregnant and lying-in women enjoy a certain degree of immunity from the effects of malarial poison; but as regards the influence of that poison on the progress of parturition and labor when once it is present in the system, there is difference of opinion, e. g., some obstetricians assert its tendency to cause abortion; others deny such a tendency. Moreover, cases illustrating the influence of intermittent fever in the mother on the foetus are very rare; Leroux, from observations in eighteen cases, came to the following conclusions: (1) since the children of women

who have suffered from intermittent fever are born with hypertrophied spleens, it is probable that the foetus may be infected by the mother.

(2) Children born of mothers suffering from intermittent fever often inherit a predisposition to that disease, since soon after birth they are attacked by malarial fever, belonging to the same type as that of the mother. Other similar cases are on record.

Some observations recently made in a malarious district and published by Lvov, are of especial interest; the conclusions he has arrived at are as follows:

(1) Intermittent fever is very common during the pregnancy, and occurs more frequently in the second than in the first half.

(2) Pregnancy has no influence over the length of interval between the attacks.

(3) Intermittent fever coming on during pregnancy is difficult to cure, and when recovery has taken place, relapses are very common. Severe attacks may terminate the pregnancy prematurely.

(4) Parturition takes place on the day at the hour at which the febrile paroxysm usually sets in.

(5) During the first stage of labor, the febrile paroxysm often shows itself; running the same course as during pregnancy. During the puerperal period, also, attacks are very liable to occur, following the same type, except that the intermission is never complete.

(6) Attacks of intermittent fever during the puerperal period do not render the woman more liable to other puerperal diseases.

(7) The foetus is affected by these malarial attacks as by any other elevations of temperature; its movements and cardiac sounds are affected in much the same way as when the mother is attacked by typhus (typhoid) fever.

(8) A prolonged and severe attack of intermittent fever may lead to the early death of the foetus.

(9) Intermittent fever in the mother may affect the intrauterine foetus with the same disease.

Behrmann concludes his paper by recording two cases which came under his personal observation; they are especially interesting, inasmuch as the malarial infection of the intrauterine foetus was easily proved.

In the first case, the mother had for four months before her confinement suffered from tertian intermittent fever. Labor came on during a paroxysm and progressed favorably. The new-born child was somewhat cachectic in appearance and weighed about 2800 grms. (6 lbs. 2. oz.). During the first day nothing unusual occurred. But about 5 p. m. on the second day it suddenly began to cry, and severe convulsions set in, lasting twenty minutes, its face becoming very cyanotic. On the cessation of the convulsions a hot stage came on, lasting three hours. Pulse 160; temperature 40.5° C. (104.9° F.) On examination the splenic region was found to be sensitive, the baby crying when it was touched. The lower edge of the spleen could not

be felt $1\frac{1}{2}$ inches below the ribs. On the third day post-partum, the child was well; on the fourth, at almost the same hour, a similar attack came on as the second with, if possible, even severer symptoms. On the sixth and eighth days attacks again recurred, but much slighter, quinine having been administered in the interval. The child began rapidly to improve, and finally quinine entirely cured the attacks. It was evident that the child had been infected during intrauterine life, since it was nursed not by its mother, but by a robust wet-nurse; moreover, its attacks came on on similar days, and at the same hour, as those of the mother.

In the second case, the mother had suffered for three months before her confinement from quotidian fever. The child when born was quite healthy, but on the second day, and at the same hour as the attacks of the mother used to set in, it became restless, cried and became convulsed. Its spleen was found moderately enlarged. On the next three days similar attacks occurred at 3 to 3:30 p. m., which was the hour at which the maternal paroxysms came on. This case differed from the first inasmuch as no complete intermission of the symptoms took place, the temperature in the intervals varying from 39° to 32° C. (102.2 to 89.6° F.). Behrmann considers, however, that the enlarged and sensitive spleen, the regular exacerbations of the paroxysms, the malarial attacks in the mother, and the disappearance of the symptoms in the child on the use of quinine, were sufficient to establish the diagnosis that it was suffering from quotidian ague. This child also was not suckled by its mother; it was not brought up on cow's milk.—*Am. Journal of Med. Sciences.*

263. INDUCING LABOR, Method of.—PROF. TIBONE suggests a modification of the method of Krause, which is, as is known, the introduction of an ordinary sound into the uterus, leaving it there until labor is established. Tibone's method is as follows: After taking all antiseptic precautions, the cervix is brought into view by means of a speculum and then a special kind of sound is introduced. The author prefers the plain English bougie, No. 10 or 12. The bougie is held a moment in a warm mercurial solution and is gradually softened; it is then introduced into the cervix, and slowly and gradually pushed up until it has entirely disappeared inside the womb. There is then placed upon the mouth of the womb a large tampon of cotton soaked in an antiseptic solution; the patient may then get up and keep about until the appearance of labor. This method is perhaps a trifle slow, but it is sure, and on account of the softness of the instrument used there is no exposure to violent rupture of the membranes or to serious injury to the placenta. The author has used this method repeatedly and always with satisfaction.—*L'Union Medicale.*

264. ANARSTHESIA in Midwifery.—DR. J. D. HIRONS in *Miss. Valley Med. Month.* contradictory reports are to be expected re-

garding all remedies, but at the same time those favorable to the remedy considered should be in the majority. And as time passes and its action under and particularly in abnormal conditions is better understood, better results are with reason to be expected. The age and agent in obstetrical anæsthetics are satisfactorily reached, but not without objections as to the first and rivals as to the second. W. J. Lusk, ably discusses the subject, from the stand-point of an unfavorable critic, and presents the latest and most scientific theoretical objections, in the following deductions:

1. Deep anæsthesia carried to the point of complete abolition of consciousness, in some cases weakens uterine action, and sometimes suspends it altogether.

2. Chloroform even given in the usual obstetrical fashion, namely, in small doses during the pains only, and after the commencement of the second stage, may in exceptional cases so far weaken uterine action as to create the necessity for resorting to ergot or forceps.

3. Patients in labor do not enjoy any absolute immunity from the pernicious effects of chloroform.

4. Chloroform should not be given in the third stage of labor. The relative safety of chloroform ceases with the birth of the child.

5. The more remote influence of large doses of chloroform during upon the puerperal state, is a subject that calls for further investigation and inquiry.

Changing the second deductive so as to read as follows: chloroform given in the usual obstetrical fashion, namely in small doses during the pains after the commencement of the second stage or in proportion of cases during the first, never during the third, may in exceptional cases weaken or if given to the point of complete abolition of consciousness in rare instances altogether suspend uterine action, creating the necessity for resorting to ergot or forceps, would entirely do away with the necessity for the first; as complete unconsciousness need never be induced, except for a brief space of time, and should any pernicious influence be noticed the further use, of course, would be discontinued. That uterine contractions are modified, and in some cases suspended, is true, and their rarity makes them none the less true; but that the muscles of respiration and the heart itself are sometimes paralyzed, is also true. Absolute immunity from pernicious effects of chloroform could never be claimed for any one under any circumstances.

Therefore, the third, and, for obvious reasons, the fourth, are superfluous. As regards the fifth, the statement might with greater justice be made of older and commoner remedies. The effect of all agents on all organs, healthy or otherwise, should be noted at all times during gestation, and especially the latter months of it, certain organs are physically and pathologically modified..

And while it is not altogether unnatural to suppose that the change in the heart may render it less susceptible to the depressing influence of chloroform.

The change in the kidneys may just as rationally be supposed to be more susceptible, particularly is this true where the anæsthetic used is ether. Chloroform given in the "obstetrical" fashion threatens danger to either mother or child, that cannot be averted. On the contrary it facilitates labor by relaxation, does not predispose to laceration of the cervix or of the perinæum if in the latter case the ordinary precautions be observed.

Indeed if chloroform be used during the first stage in certain cases in the writers opinion, lacerations of the cervix would be of less frequent occurrence. Such cases are characterized by extreme nervousness on the part of the patient, and the severity of the pains, likewise by the condition of the cervix, which is rigid and non-dilatable; thereby unduly increasing the first stage, both in length and suffering. It is in such cases that chloral hydrate in twenty and ten grains doses at half hour intervals accomplishes so much. But cases are met in which this magic influence does not follow, and others in which the restlessness and bearing down effects augment any danger, that may exist, and it is here that a few inhalations of chloroform assists the more lasting antispasmodic, or insure safety, until it can act. Accidents from chloroform however have been recorded, and in the short time devoted to the purpose, four cases of death during its administration in accouchement. But the patient becomes exhausted and the womb ceases to contract fully as often without the chloroform as with it.

The committee on anæsthetics of the Royal Medical and Chirurgical Society, state in substance that the administration of chloroform in natural labor, is not attended with special danger, and that while at (at that time) there was no well authenticated instance of sudden death when given by a medical practitioner, the occasional occurrence of unfavorable symptoms demand the exercise of caution during its employment. Given in moderate degree it does not weaken the expulsive powers and is decidedly beneficial in promoting dilatation of the maternal passages. It does not predispose to complications, (as puerperal convulsions hæmorrhages, etc.,) but whether it predisposes to imperfect contractions of the uterus after delivery is *sub-judice*. As a rule the convalescence of the mother the function of lactation and the normal condition and progress of the child are not interfered with. The following rules are to be observed during its administration:

1. In natural labor begin to give it generally at or after the termination of the first stage, but if the first stage be excessively painful or the os uteri rigid it may be given earlier.
2. Give it only during pains, withdrawing it during the intervals.

3. When the foetal head bears on the perineum give it more freely to relieve the pain and promote relaxation.

4. Withdraw the chloroform immediately on the expulsion of the child.

5. If the pains are sluggish or patient depressed a stimulant may be given occasionally.

6. In cases where it seems to interfere with the progress of labor it may be necessary to suspend its use for a time, and re-apply it after an interval or even to withdraw it altogether.

7. (This has reference to obstetrical operations when to my opinion ether should be substituted for chloroform with scarcely an exception).

8. In midwifery a special inhaler for its administration is not generally necessary, a handkerchief or towel folded and held so as to prevent blistering the face, and allow a free admixture of atmospheric air being sufficient for the purpose. M. Pichand in a paper read before the International Congress of Geneva 1877, formulates a dozen conclusions, even more expressive and enthusiastic than the above.

265. CHLOROFORM, When not to Give in Parturition.—

1. Never give it to a woman who has a tendency to flood during every confinement, or to those who have great relaxation of fibre, or weak, anemic women in their eighth or tenth confinement, except for necessity.

2. Do not give it where labor is complicated with severe vomiting, or with acute heart or lung troubles, unless there be an imperative demand for it.

3. It should not be given to complete anesthesia except for operations, convulsions or spasms of the cervix, and then one person should devote his entire attention to it.

4. The inhalation should be stopped directly the pulse becomes weak or the respiration irregular.

5. Do not give it if there be grounds to fear a fatty or enfeebled cardiac wall.

In all cases where it has been given, there should be extra care to prevent post-partum hemorrhage.—DR. SAVILL, Eng.

266. BANDAGE the Injurious Effect After Labor.—DR.

W. B. LYMAN, in the *Med. Record* regards the bandage applied after labor as a fruitful cause of sub-involution of the uterus. The weight of the organ, after delivery, is two pounds or more, and this should normally be reduced to a few ounces within a few weeks, the greater part of the change taking place during the second week. In order, he says, that this change may progress perfectly the organ should have the freest possible circulation, and this is only obtained by the perfect rest of the patient in the recumbent position, all abnormal pressure

over the organ being avoided. Nature does what she can by relaxing the abdominal parietes, and distending the intestines with gas, so as to cover the uterus with an air-cushion, and thus relieve the organ from undue pressure during contraction of the abdominal muscles. Under these conditions there is free and uninterrupted circulation through the blood-vessels and lymphatics of the uterus and its appendages. But the bandage, Dr. Lyman maintains, exerts constant pressure on the organ, confining it rigidly against the walls of the false pelvis, and when a pad is also applied, the uterus is more or less impacted in the brim of the pelvis, the ligaments are stretched, and malpositions and passive congestion result. Experience has taught him, he says, that a bandage does not add to the comfort of the patient, and he believes that it should be discarded, except in certain cases where its application is clearly indicated.

267. POST-PARTUM *Hæmorrhage, Saline Intravenous, Injections in.*—The value of intravenous saline injection in metrorrhagia is warmly advocated by Dr. F. Weber, in the *St. Petersburg Med. Wochenschrift*. Its superiority over transfusion of blood, human or animal, consists partly in the simplicity of the apparatus required. All that is needed is an Esmarch's jar, with a glass reservoir, a canula, and some India-rubber tubing. The operation is as follows: Five litres of a 6 per cent. solution of common salt is prepared with distilled water of the temperature of the body. If the veins be so collapsed as to be invisible through the skin after ligation of the upper arm, a vein is exposed, and two ligatures passed under the free portion; the distal end is tied, a longitudinal incision is made in the vein, and a glass canula introduced, filled with saline solution, which is then fastened by means of the second ligature. This, and the pressure of the fingers on the vessel, prevent the air from entering the veins. The canula is then connected, by tubing, with the jar containing the whole quantity of the solution. Directly the finger is removed, the injection begins. No ill effects are seen. Dr. Weber relates an instance in which this method is most valuable. He was called by a midwife to a married woman, aged 21, who was seized with *post-partum* hæmorrhage fifteen minutes after the birth of a putrid child. Dr. Weber arrived at 10.30 P.M., an hour after the hæmorrhage had commenced. He found the uterus atonic, reaching to the umbilicus. Massage, hot injections, and hypodermic injection of camphor and ether, were used, with some effect. The hæmorrhage returned, he was called at 3 A.M., and after hot douches and ice-tampons, it again decreased; but cerebral anæmia appearing to an alarming extent, and the pulse being imperceptible, hot compresses were placed on the head, the lower extremities bandaged, and hypodermic injections administered every quarter of an hour. These proving unavailing, it was decided to try an intravenous saline injection. This was successfully administered; and when 500 grammes had been given, hæmorrhage ceased, and the patient, who had been

conscious the whole time, experienced great relief. The pulse, too, became distinct. On 1,000 grammes being injected, the patient complained of palpitation, and the jar was lowered in order to lessen the pressure on the circulation. When 1,500 grammes had been injected, the pulse was perfectly good, and the cerebral and hæmorrhage symptoms disappeared. The patient felt completely invigorated, and took nourishment without vomiting. She continued to do well, and made an excellent recovery.

268. CESAREAN Section, Modified.—From the *Archiv fuer Gynecologie*, we learn of some modifications of the classical section Cesarea that have been proposed and carried out by Professor Kehrer, of Heidelberg. The methods proposed by him have a bearing, also, on craniotomy, and are not so radical as those to which Lawson Tait appears to be inclined, judging from his remarks, in reference to Porro's operation.

Kehrer proposed, some years ago, in cases demanding the Cesarean section, to incise the uterus transversely in the region of the os internum anteriorly. After developing the child and secundines, he suggested union of the uterine muscle incision by deep sutures first. Thereupon, the peritoneum is to be stitched so that the edges are turned in, and thus the wound is closed by a continuous suture.

Up to date Kehrer operated four times by this method, developing a living child in every case. In two cases the mothers recovered, in the other two the result was fatal. Kehrer states that he would execute a Porro only in case of certain complications, such as sepsis of the utero-vaginal cavity, metritis, multiple fibromata in the region of the fundus uteri, etc.

In all uncomplicated cases he prefers the conservative operation, modified as described. The results of the conservative operation, he claims, are no worse than those of other operations demanding laparotomy.

Kehrer proceeds in a strictly antiseptic way. The belly is scrubbed with sublimate, the vagina is wiped out with an antiseptic solution and an iodoform tampon introduced. The belly is open by a median incision from umbilicus to symphysis. The incision is then made transversely at the inner os. Thereby a wound that does not gape very much is made, and a matter of the utmost importance, the placental insertion is not divided by the knife. Another advantage is the close approximation of the edges of the wound, owing to the normal anteverted position of the pregnant and the puerperal womb. The muscle-sutures may be placed before removing the placenta, so that in the event of hæmorrhage the cavity can be closed forthwith. The cavity may be treated with an antiseptic. Before closing the abdominal incision the wound and the parametria are sponged with a sublimate solution. Kehrer proposes this in order to hasten the local adhesive process, that is to shut off the uterine and peritoneal cavities

from each other. No drainage is made. The first dressing is left undisturbed, unless otherwise demanded.—*Wk. Med. Review.*

269. VICARIOUS Hæmorrhage.—DR. E. H. JONES, Zeno Springs, Mo., thus reports a case of vicarious hæmorrhage. I am strongly of the opinion of Dr. White of "*Vicarious Menstruation*," and in support of that opinion, I will relate a case of a Mrs. S. Multiford, a strong and industrious woman. In confinement she had no trouble, a fine ten-pound girl was delivered within two hours after I called. I, however, gave her fifteen gts. ergot about one-half hour before delivery, the placenta came naturally within twenty minutes after delivery. The next morning found her in the finest condition and quite cheerful, pulse entirely normal. She declared that she didn't mean to stay in bed nine days as I requested, as she always got up on the third and went about her affairs. I told her that she had been extremely fortunate, but I would insist on her keeping in bed for at least nine days. I had the husband apply some lint cotton to see the character of the lochia—found it all right.

But my request in regard to lying in bed nine days was disregarded, and on the morning of the third day the husband came to me for medicine for (as he said) "scurvy." Said she had eight decayed molars, upper and lower, and they were bleeding. I studied the matter over awhile, and asked him if he was certain it was scurvy, he replied it was, and that she had been afflicted that way before. (The man was "good pay." And I always notice when they are "good pay" they want the "doctors" to come as "seldom" as possible.) I sent the proper astringents, but asked if the "lochia" was all right. He said it was. The next day he applied for more. And then the next day came for me to see his wife. Said that she believed she was dying. I called, and upon close examination, found the lochial flow had ceased through the vagina the instant the teeth began to bleed, and that she had got up on the second day and lifted a heavy pot. The moment she did so, she felt a singular sensation, thought an attack of vertigo, that her face flushed, and her teeth began to ache. She sat down to regain composure, and took a "smoke" from her pipe, that while smoking she felt the blood in her mouth, spit it out, but thought nothing more of it, as her teeth had bled before. The flow increased from that moment until when I got there I found the pillows covered with blood, the quilts, the wall was besmeared and the floor. Two large size oyster cans full of blood were on the floor by the bed, and the wash pan half full on the bed by her mouth, her whole face and neck and chest were covered with blood, in fact, she was *wallowing in her own blood!* I was appalled. I immediately sent for another physician, Dr. Maxwell, who came in a few minutes. We called it "puerperal hæmorrhage" through the teeth, what else was it? Her lochia had ceased the moment the flow began through the teeth. We

examined some of the blood, but without the aid of the microscope, and it seemed to be mostly fibrin and serum, very little of the red globules. She died in less than eight hours after I got there.

270 PREGNANCY *mistaken for a Tumor, a seven months.* The Superior Sanitary Council of Jassy (Department of Vaseline) has just issued a decree revoking the licence of Dr. Sculi and gravely censuring Dr. Russ, the latter surgeon in chief and the former first assistant surgeon of the Hospital Saint Spiridion of Jassy. The circumstances which brought about so severe a judgement were as follows: A woman who had borne seven children found herself pregnant with the eighth, and fearing exceedingly the wrath of her husband, left her home and went to Jassy to be delivered. She entered, for this purpose, the Saint Spiridion Hospital and instead of being sent to the maternity department was placed in the surgical wards under the care of Drs. Russ and Sculi. These gentleman, entirely ignoring the history given by the woman herself, diagnosed a tumor—a cyst of the broad ligament, and despite her violent protests, proceeded to operate on her, with the results mentioned viz: finding a seven months old foetus. The infant thus prematurely and violently ushered into the world, survived several hours, the mother also dying on the eighteenth day after the operation. The death of the mother brought about an investigation of the matter by the Superior Sanitary Council, who in the course of the inquest discovered that in defiance of the rules of the hospital Dr. Sculi, by an understanding with his superior, Dr. Russ, was accustomed to operate in capital cases on his own responsibility and rarely or never summoned the balance of the hospital staff into consultation. Sculi, who it appears was Professor of Clinical Surgery of the Faculty of Jassy, had procured this arrangement for motives of personal aggrandizement. The investigation also discovered the fact that in the operation he had proceeded without the least precautions against error. After having incised the abdominal parietes, and laid bare the supposed cyst, instead of exploring it with the trocar, he proceeded immediately to open it with the bistouri, and that too with a transverse incision, becoming aware of his fatal error only when he had made a gaping wound through the uterine parietes.—*St. Louis Med. and Surg. Journal.*

271. LACERATIONS of the Cervix Uteri Post-Partum, a Method of Detecting.—DR. JOHN BARTLETT. “My object in addressing the Society this evening is to suggest a way and a time in which laceration of the cervix uteri may be easily and certainly detected soon after its occurrence. Directly after delivery, if the fingers be introduced deeply into the vagina up to the contracted os uteri internum, and then carried in any direction a little outwardly, the flabby and floating ring formed by the non-contractile cervix may be felt, as Guillemeau described it three hundred years ago, ‘like a section of large

intestine.' By carefully following the entire circumference of this ring, an existing rent may be discovered. But this examination is attended with some difficulties. The patient is exhausted with her labor, and fatigued with our attentions, and just now, since 'it is all over,' longing for rest. She is impatient of, and perturbed by, this post-factum inquiry. Her state of mind, and possible expression of complaint, are apt to render an examination, which the physician cannot regard as absolutely necessary, less exact and thorough than it would be otherwise. And then, the soft and floating margins of the cervix uteri have often somewhat of an intangible feel, if I may so express myself, gliding past the fingers, like a detached clot of blood, and occasionally, in some portion of the circumference, passing out of satisfactory reach.

"On these accounts, it is not surprising to hear an obstetrician say that he cannot tell whether the post-partum cervix is lacerated, or not. Now, I desire to teach those who may not be familiar with the short lesson that I propose to impart how to discover a cervical laceration after labor. The error of accoucheurs who fail to recognize such a condition is that they do not make their observation of the suspected cervix at the proper time. They examine the neck actually as we have just done mentally,—after the clearance of the uterus. The favorable moment for the examination—and this is the gist of my remarks—is just as the placenta is beginning to occupy and distend the cervix. The collar of flesh is then not floating and uncertain, but on the stretch, expanded, forming a distinct ring, easily followed in its entire circumference. At this moment, then, just as the cervical tube is being rendered tense by the placental mass, any laceration in it may be detected with ease and certainty."—*Maryland Med. Journal*.

272. BREECH Presentations, the Management of. DR. ROBT A. MURRAY as reported in the *Obs. Gazette*, said the object of his paper was more particularly to analyze the measures necessary to be taken to deliver in breech cases and to diminish the percentage of mortality. The importance of an effort in this direction was apparent from the fact that the statistics quoted from authorities give a mortality of about one in eight and a half cases. Among the causes of this class of presentations were a contracted pelvis, an excessive amount of liquor amnii, violent movements, and a peculiar formation of the lower segment of the uterus. It was also remarkable what a large proportion of the cases occurred in premature labor and multiple pregnancy.

In a case of breech presentation in which the mother's pelvis was of full size and regular form, and the child of moderate proportions, labor would probably be accomplished without particular difficulty, and the obstetrician had only to wait. If, however, the indications were that the labor would be difficult, if the pelvic cavity was not roomy, or the child of large proportions, version, if it was to be performed, should be done early, before the rupture of the bag of waters.

If the case was allowed to progress, no obstruction being met with, the critical moment for the child would be just after the birth of the trunk and lower extremities, for now the cord was in danger of being compressed between the unyielding head and the pelvic wall. The cord should be pulled down and placed next the sacro-iliac synchondrosis by the side of the child's head, where it would be least likely to become compressed. The contraction of the uterus might be followed up by the hand, and flexion of the head might be aided by raising the trunk of the child. But in cases in which the limbs were extended upward over the front of the child, so that the toes were near the face, the breech was not nearly so large as the child's head, and, being readily molded, entered the pelvic cavity; the entire foetus then presented, as Barnes had well described, the form of a wedge with the base upward. Now, if traction was made by means of hooks, fillet or forceps, and unsuccessfully, as it was likely to be, the apex would be dragged into the pelvis, and the cavity becoming more tightly filled, compression of the cord would be increased, and the uterus rendered more irritable, and here the only measure for the safety of the mother and child was to bring down a foot. The use of the blunt hook to do this was difficult, as it was apt to slip and injure the soft parts or cause fracture of the thigh; consequently, if the child was living, it should not be resorted to. The fillet, if it could be guided over the limb, might cut the tissues or prove too weak to overcome the difficulty. The obstetric forceps had been recommended in these cases, but it was condemned by most authorities. It was only adapted for use on the head. The performance of cephalic version, as recommended by Spiegelberg, would be possible only before the rupture of the bag of waters, and before the breech became wedged.

The clear indication in such a case was to break up or decompose the obstructing wedge, which was to be done by bringing down one foot. The position of the breech in relation to the pelvis having been determined by ordinary diagnostic points, the hand was to be passed in front of the breech where the foot lay, and one foot seized by the instep and brought down, and the breech would probably soon descend. The cord would be better protected than if both feet were brought down. The foot nearest the pubes was most easily drawn down. If the case was not otherwise complicated, the labor would now go on naturally. If the breech filled the brim, or was forced into the pelvic cavity, little space would be left for the operator's hand, and under these circumstances the hand would have to be drawn up to the fundus uteri in order to grasp the foot. That hand should be introduced whose palm would touch the abdomen of the child when introduced. When the foot was reached, preferably the anterior one, it was to be seized by the instep and drawn down out of the vulva. It was essential to get hold of the foot; taking hold of the knee or hooking the thigh in the groin would be of no use. During the operation the uterus should be supported by the other hand or by an assistant. If inertia

uteri should exist, we should still have obtained, by our hold on the foot, security for the further progress of the case.

The operation of extraction by the breech might be divided into:

1. Drawing the trunk through the pelvis.
2. Liberation of the arms.
3. Extraction of the head.

Traction on the leg should be carefully made, in drawing the trunk down, coincidently with the pains. The trunk should be drawn downward and backward in the axis of the brim, external pressure being made by an assistant, traction being kept up until the breech was fairly in the pelvic cavity. After the extraction of the breech, the cord should be carefully looked after. Liberation of the arms might become necessary if the pelvis was at all contracted, or if traction upon the trunk had been too rapid, or had not been accompanied by external pressure upon the uterus.

The head being at the brim, Smellie's method might be employed in the manner recommended by Shröder, or the method of Scanzoni. In all cases of breech presentation the forceps should be at hand ready for application to the head if it should be necessary. Particular care should be taken during its introduction not to lacerate the cervix. Passing a catheter up into the mouth of the child at this stage would frequently save life.

The subject of the management of breech presentations had been brought to the author's mind forcibly during the past year from the number of cases which he had seen in consultation, in nearly all of which he had found difficulty arising from flexion of the legs on the abdomen, diminishing the size of the breech to a certain extent, and at the same time forming a wedge that became more tightly impacted as the child descended. In all of those cases 'unsuccessful efforts had been made to extract before he was called, and he was impressed with the advantage of introducing the hand and bringing down the foot over other methods, such as the use of the forceps, the blunt hook, the fillet, etc.

273. SUBINVOLUTION in *weekly Med. Review*.—DR. F. ELLINGWOOD, (Chicago,) considers fluid extract of ergot and bromide of potassium as specifics in subinvolution. Regarding the benefit to be obtained from electricity, we quote as follows: "Electricity, is a most powerful adjuvant, and if used in the form of a mild galvanic current, will rapidly produce an amelioration of the symptoms, and, if used immediately subsequent to confinement, will absolutely prevent the conditions, and the long train of evils which will surely follow, and will restore the womb rapidly to its normal state. The galvanic current, judiciously applied, will accomplish this restoration in three weeks."—

274. THIRD STAGE of *Labor, management of the*.—Dr.

D. Berry Hart. (*Brit. Med. Jour.*,):

In the management of a normal third stage the patient should occupy the dorsal posture, and the accoucheur should grasp the uterus with his left hand to ascertain its tone. When this is good, he retains his grasp merely to note if the uterus relaxes. When good pains come on, he does not consider it necessary that these should be helped by the practice of expression, or what is known as Crede's method. In a normal case, the risk is that the placenta, bulky as compared with the membranes, may be squeezed out too soon, and parts of the membranes left behind.

When, however, the placenta remains in the uterus half an hour after the delivery of the child, expression should be tried, but only with the left hand. After some practice, one can tell whether the placenta can be expressed or whether adhesions are present. In the former case, the accoucheur feels the uterus diminishing in bulk as the placenta is expressed; whereas, in the latter case, no impression is made on it by moderate pressure.

When the placenta is in the vagina (a condition recognized by the altered shape of the uterus), but does not soon appear at the vaginal orifice, slight downward pressure in the axis of the brim will help its expulsion. If more than slight pressure is needed, the question must then arise whether the retention is not due to non-separation of the part of the membranes. The cleansed fingers may be passed into the vagina, the presenting part of the placenta laid hold of, and gentle traction in the proper axis will effect delivery.

When the placenta is detained in the vagina, it is sometimes convenient to place the patient in the semi-dorsal posture, to draw down and back the posterior vaginal wall with the cleansed fingers, so as to straighten it; and then, by slight downward pressure, with the external hand in the axis of the brim, to effect delivery.

In those cases where uterine action is feeble, expression is of the very greatest value. It then imitates the natural process, and places such a case on a level with the normal. The uterus should be grasped with the left hand as fully as possible, the thumb being in front and the fingers behind. It is then squeezed firmly in the direction of the line joining the finger and thumb, without any downward pressure.

In partial adhesions of the placenta, or in adhesion of the membranes, the practice of expression is in the highest degree dangerous. The non-adherent portion is separated and forced down and out, while bits of the placenta or membranes are left behind, exposing the patient to septicæmic risks.

When morbid adhesions exist, the accoucheur must separate them manually, using all antiseptic precautions. The hands must be thoroughly cleansed with corrosive sublimate solution (1 to 2000), and a

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the infant as well as that of the mother. What should be done? If the presentation, be it face or breech, does not advance, the cause of the delay being diagnosed, it is not necessary to interfere so long as the cervix is not dilated nor dilatable. When the os has dilated, this or that operation may be made according to the case, when the life or health of the mother or child is threatened.

I hear the objections of some teachers. If the foetus does not advance, they say, on account of a disproportion between the pelvis and the foetus, evidently the giving of ergot is a bad practice; but if the cause is a simple inefficiency of contractions, the head being well engaged by the vertex, why not lightly spur the uterus?

Because we possess an instrument in the forceps, which, properly applied, has not the serious objections pertaining to that foeticidal powder (Tarnier), which often also kills the mother. We have seen, after the expulsion of the child, the opening of the uterus lightly spurred, lightly close, retaining the placenta, not to open again.

These are the two accidents, always the same, complete asphyxia of the foetus and retention of the placenta, which have caused the abandonment of ergot, in a case where logic, (bad counselor in clinics when not corrected by experience), precisely indicated it. I will now speak of breech presentation. It has been known for many years that in such cases that the infant runs the risk of being smothered in the passage. To give a small dose of ergot when the breech appears at the vulva is to hasten expulsion, to maintain the foetus flexed and compressed by applying on it the contracted uterine walls. What more logical in appearance? Unhappily it is pure theory. The practice of giving ergot augments the chances of the death of the foetus instead of diminishing them, and exposes the mother, who, without it, was in no danger. The tetanic power of ergot, embarrasses the utero-placental circulation and exposes the foetus to the danger of death by premature respiration, and by compression of the cord or by separation of the placenta, adds that of asphyxia in default of exchange between the mother and foetus. And more, the os by contracting in some cases about the neck of the child, (and that powerful muscular cravat prevents its expulsion) leaves the child to perish in the hands of the accoucheur, who has felt it pant under his fingers and made useless efforts to overcome the tetanic resistance.

There were a few years when it was officially taught at the clinics of the faculty, that a small dose of ergot was indicated in breech presentation. They put that counsel in practice in the obstetrical ward, when the breech appeared at the vulva. To-day there remains of that mode of procedure only the bulletins of statistics, eloquent testimony of its disadvantages.

When the child presents by the breech, it is necessary to wait. Patience after cleanliness, is the prime virtue of the accoucheur. Interference should only take place, if the mother or infant suffers; by traction exercised when the uterus contracts, on the limbs of the foetus,

with the hands, with a finger, with a snare, as a last resort with the forceps, never with a *crochet* if the child is living.

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[To be continued.]

277. SPONTANEOUS Evolution of a Living Child at Term.—DR. E. LVOFF reports the following rare case in the *Russkaya Meditsina*. The woman, a strong, well-nourished peasant, thirty-five years of age, had given birth to six children by normal head-presentations. At the birth of the seventh child, after the bag of waters had ruptured, a hand came down. The midwife thought, however, that there was no occasion for alarm and did not send for assistance until four hours had elapsed. When the writer was summoned, he found a transverse presentation with the left hand down in the vagina. The head lay high up on the right side, the back of the child was directed forward, and the breech was to the left and rather tightly wedged into the entrance to the true pelvis. The child was alive and the pulsations of the heart were distinctly audible. The pains were strong and frequent. Just as Dr. Lvoff was about to introduce his hand to turn, during a severe pain, the breech slipped a little and came into the outlet, while the head passed upward. After this the labour was quickly terminated without assistance, and a living child, weighing nine pounds, was delivered. Spontaneous evolution is not very infrequent in the case of a dead or immature child, but it exceedingly rarely happens that a well-developed living child is born in this way.

Pædiatrics.

278. THRUSH, THE. Editorial department in the *St. Louis Med. and Surgical Journal*.

THE THRUSH, or aphthous sore mouth of very early infancy, owes its origin in the great majority of cases, to traumatism produced by nurses. These tyrants of the lying-in chamber have a fashion of twisting a corner of a towel around the forefinger and with this rasp-like contrivance cleaning the buccal cavity of the newly born. Naturally enough, the delicate mucous membrane is broken, the lesion sometimes giving rise to hæmorrhage, and always leaving the surface ready to receive any infectious germs that may be prowling around. Professor Ebslein has for some years past forbidden all

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attempts at cleansing the mouths of infants born at the Lying-in Hospital at Prague, which is under his care—the results being that stomatitis had almost entirely disappeared, whereas prior to the issuance of this order fifty-two per cent. of all infants born there and under ten days old were afflicted with it. Where stomatitis had already been set up, the best results were obtained by Ebstein from swabbing the mouth with a very soft rag wet with a weak solution of sublimate.

279. SULPHATE of Iron for Catarrh of the Stomach in Little Children. (*L'Union Méd. du Can., Oct.*)

One of the most important symptoms of this condition is an acidity of the contents of the stomach and intestines. The matter which is vomited has a pungent odor, and, on being exposed to the atmosphere, has a greenish color, the same being true of the contents of the intestines. Those portions of the skin which are soiled by this matter, as the anus and scrotum, become reddened. This green colour is not due to the use of calomel. Absorbents are frequently given to overcome the acid, and tonics to combat the catarrh, but these means are not invariably successful. The author is in the habit of using the sulphate of iron, which possesses a multiple and favorable action, serving also as a disinfectant. The stools become changed in colour, and lose their bad odor. The stringent action of the iron causes the turbid mucous membrane to contract and coagulate the albuminoid substances. It is well to continue the use of the iron for several days. The following formula has been found satisfactory:

R.—Ferri Sulph., o. i. grammes;
Mucil Acaciæ;
Syr. Simp., ℥ss 20 grammes.

Sig.—Coffee spoonful every two hours.

280. PNEUMONIA in Infants.—I arrange two glasses, into one of these, for a child a year old, I would drop 10 drops of the tincture of aconite, and 6 drops of fluid extract of belladonna. In the other I would drop 8 or 10 drops each of tincture of bryonia and ipecac. To each glass I would add 16 teaspoonfuls of water. If the temperature and pulse were not too high, I would give a teaspoonful of these, alternately, every hour. If temperature is high, with pulse 130 or over, and rapid respiration, I would give a smaller dose and alternate every half hour. Over the chest, for a child under three years old, a cloth should be applied well spread with lard, and this slightly sprinkled with the compound emetic powder of the dispensatory. For a child above three years old, a muslin jacket is more effectual, and not too heavy. If there is persistency of high temperature, the aconite may be added to the second glass also. If there is restlessness, 4 or 5 drops of the fluid extract of hyoscyamus may be added to the bryonia and ipecac instead of aconite.—*Chicago Med. Times.*

281. OVARITIS in the Chorea* of Sydenham.—Of thirty-three patients with chorea, observed by P. Marie (twenty-seven girls from nine to fifteen and six boys of like age), ovarian pain, or pain in the inguinal region, was wanting on pressure in only nine cases. In ten cases it was found on the right side, in ten others on the left, and in four on both sides. The ovaritis in the girls and inguinal tenderness in the boys was invariably found on the side upon which choreic movements had begun.—*Am. Prac. and News.*

282. CHOREA, The Treatment of DR. F. FRUHWALD in the *Revue des mals. de l'enfance*. In 1872, Eulenburg and Smith proposed to substitute for arsenic given through the mouth, hypodermic injections of Fowler's solution in the treatment of chorea. Dr. Fruhwald communicates the results obtained by the new method of treatment at the clinic of Professor Widerhofer.

The liquid employed for the hypodermic injections consisted of Fowler's arsenical solution dissolved in an equal quantity of distilled water.

At the beginning, an injection of but one division of the syringe of Pravaz was made, which amount was augmented each day by our division until ten were reached. Arrived at that maximum, the amount was diminished each day by our division. The quantity of fluid injected being in accord with the age of the child and the gravity of the disease.

The injections were deeply made, and alternately upon one or the other of the extremities, the part having been previously washed with a solution of symol.

At the same time as these injections were made, Fowler's solution was given through the mouth to a number of children affected with chorea, that the two modes of administering the solution of arsenic in this disease might be compared.

They began in the one case, by administering five drops of Fowler's solution in seventy grammes of distilled water and ten grammes of syrup, increasing the dose every day by one or two drops until the amount taken was twenty-four drops per day. The children under treatment by arsenic numbered twenty-five, of whom eighteen were girls and seven boys, their ages running from five to fourteen years. Twenty-three of these were treated by means of hypodermic injections, and two by the administration of arsenic through the mouth. Regarding the artiology of the disease the twenty-five cases were classified as follows, nineteen could be attributed to a fright, or to mental excitement, two cases were cases of relapse, but who had not been previously treated with arsenic, while in three instances only, the chorea coincided with acute articular rheumatism, without cardiac complications.

Of the therapeutic results obtained by the sub-cutaneous injections, it may be said, that that mode of administration is prefer-

able to the absorption of the medicine through the digestive system. At the end of the first week of treatment, the amelioration was marked, and in most of the cases the cure was complete about the third or fourth week. In the twenty-five cases under treatment there was only one that suffered a relapse, in all the other cases the cure was complete. It is probable that the arsenic when injected under the skin, is absorbed more readily by the blood and exercise, for that reason, a more rapid action on the organism.

283. SUPPRESSION of Urine in Diphtheria, DR. KING-BURY writes to the *British Medical Journal* as follows: As I have failed to find any mention, in the leading text-books, of suppression of urine as a possible cause of death in diphtheria, I think the following brief note may be of interest.

E. G., aged 3, was first seen on July 13th. He was suffering from a mild attack of diphtheria. There was a distinct false membrane, but this was easily detached. The temperature was 102° , the skin moist, and the patient had no difficulty in swallowing. No bad symptom arose until July 22d. The throat was now almost well, and the little patient becoming bright and hungry, but during the whole of that day he passed no urine. Diuretics, hot fomentations, and baths were tried, but had no effect. This continued during the next day, but there was no apparent constitutional disturbance. During the third day of the suppression, July 24th, the patient began to be delirious, and sank into a comatose condition in the evening, dying just before midnight, not having passed any urine for over seventy hours. It is also worthy of notice that, during the three days the suppression lasted, diaphoretics had no effect, even pilocarpine failing to produce perspiration. (In a case of diphtheria recently under our care, the urine was completely suppressed for more than seventy-two hours, but the patient, a girl seven years of age, made a good recovery, although the surroundings were hygienically bad and nursing poor. The treatment was mainly Tr. Iod. Comp. in drop doses every hour.)

284. WHOOPING Cough. Quinine in the treatment. DR. W. THORNTON, in the *Phila. Med. Times*, thus writes:—During the past six years I have treated upwards of one hundred cases of this disease, and the principal remedy has been sulphate of quinine in solution. With very few exceptions, this treatment has proved perfectly satisfactory. Only in cases where the hygienic surroundings have not been good, or where the remedy was not faithfully or regularly employed, or where unusually obstinate symptoms prevailed, has this excellent remedy failed to relieve, if not actually to cure. The paroxysms diminish in frequency, and the little patient shows unmistakable signs of improvement as early as the second day.

The employment of the solution affects at once the coughing, and

the vomiting is not severe enough to occasion any considerable alarm. A certain amount of nausea, sufficient to disengage the mucous secretions, is of course desirable. Even if this treatment should be found disappointing as a *specific*, it is certainly useful in that it places the patient at once under the most favorable circumstances for a recovery, removing or relieving many of the painful and prominent sources of the disease.

Under this method of treatment complications are guarded against, and the patient's general condition is vastly superior to that of children treated with such remedies as belladonna, for instance, or other well-known depressants, and cough-syrups. The treatment with sulphate of quinine is a rational treatment. The treatment with cough-mixtures is often only a miserable attempt at palliation.

Dr. Dawson introduced this treatment from Germany, and first used it in the wards of the Hospital for Children in New York City, then under his care. He met with great success. The treatment I follow is to expose the patient as much as possible to the open air, and, if practicable, at our mountain or ocean resorts, paying particular attention to food and clothing and general hygienic conditions. Every two hours I give a teaspoonful of a solution of sulphate of quinine four, six, eight, or even ten grains to the ounce. This remedy does not disappoint in many cases in controlling the disease, and, if properly used, and with perseverance, in actually curing it, or at least shortening its course very decidedly. It seems to act as a sedative in the inflamed mucous membrane, and has also the valuable properties of a tonic. Unlike many of the other remedies which are so unsuccessfully exhibited in this disease, it has absolutely no injurious effects. The little patients begin to improve very shortly after the first two or three doses. I am fully convinced that a trial should always be made of the solution of sulphate of quinine in the strength and in the doses indicated, according to the age of the patient and the severity of the case; and after a few faithful experiments in this direction I believe that no one will be able to say with truth that "the course of the disease could not be controlled by treatment."

285. THE VARIOUS Forms of Eczema in children, By PROF. GRANCHER, in the *Revue Medicale*.—The great variety of aspect under which eczema may present itself in children, renders it important, that from a therapeutic point of view alone, these forms should be classified, as the disease may often be mistaken for something entirely different. Four little patients in attendance at very nearly the same time may serve as examples. The first has a simple impetiginous eczema of the face which has appeared quite recently and which will disappear rapidly and is quite common.

The next case, a child, about seven years old, has a more complex history. The affection appeared, at the age of five months, upon the cheeks and eyelids and has continued since that time almost constantly,

with some remissions, but always returning. The child thus wearing continually a kind of oozing mask.

During the affection, an intercurrent attack of varicella, made the cure a very interesting one. It was observed that the eruption was much more confluent upon the parts attacked with eczema than elsewhere. The same condition has also been seen in vaccinal eruptions, which are often so confluent upon parts attacked with eczema, that the presence of the latter affection, is sometimes, for the time being, a contra-indication, of vaccination.

During convalescence from the varicella, the eczema was much improved. The child then contracted a mild form of whooping cough, which was followed by severe diphtheretic angina. Following these affections the eczema disappeared completely, the skin was simply a little thickened and reddened upon the parts first attacked. It is to be feared that the cure will not be permanent, but the influence of acute diseases upon eczema is none the less manifest.

In a third case, the eczema, appearing in a child of twelve, presented a different type, it was symmetrical, chronic and relapsing. It first appeared when the child was a year old, the attacks lasting for one or two months, but as the child grew older, they were of longer duration, between the attacks the cure seemed complete. The eczema which was almost dry, there being very little oozing, began in the face and spread thence to the arms and legs. Its character was pruriginous. During the child's stay at the, it was taken with a chill and sore throat forerunners of scarlet fever. Before the eruption appeared the eczema suddenly disappeared. The scarletina rash was very abundant, particularly so on the parts affected with eczema. The eczema disappeared for ten days and then returned with all its former symptoms. The action of the scarlet fever upon the eczema was similar to that of the varicella in the previous case.

A fourth patient who had been attacked three times before with eczema followed by a scarlatinaform desquamation, came to the hospital with an acute attack, attended with high fever, which rapidly gave way and was cured by applications of thin muslin dipped in starch water.

These four cases, all so different, yet all known as eczema, show how difficult it is to fix upon the characteristics of the disease. From an anatomical point of view, writers are not in accord upon the subject, and upon the nature of the affection they are still less in accord. The German school for example regard the disease as purely local, while the French, on the contrary, regard it as the manifestation of constitutional condition, of the scrofulous, or astheritic diathesis.

Prof. Grancier here cited a case in his personal experience, which is of interest as showing the necessity of general treatment in certain cases of eczema.

A gentleman from Guiana, who was attacked with eczema, and who had consulted most of the European dermatologist and been subjected

to various methods of treatment without avail, had now an eczema of long standing, which covered his face with a mass of vesico pustules and which extended to his arm. Certain topical applications had ameliorated somewhat the condition of the arm, but had had no influence upon the face. There was no special cause predisposing to the disease except an excess of physical and mental labor during the year preceding the onset of the disease. At the time he came under treatment his condition was so bad that he seriously contemplated suicide. It was in this condition when Prof. Grancher prescribed cod liver in large doses, and the patient was soon able to take twelve teaspoonsfull a day regularly. A month later there was a notable improvement, and two months after the cure was complete. He has since remained well, taking only from time to time a certain quantity of cod liver oil.

The interest in this case lies wholly in the fact that it was cured by internal medication and it is impossible not to see in it a demonstration that skin diseases are not, as is often supposed, a local malady. Most of them are due to a defect in nutrition and will disappear when that defect is removed. It may be considered as settled that the disease called eczema is not always of the same nature. Some of them are known to be contagious, like eczema of the scalp, and may be transmitted by toilet articles. Treatment of this affection must be varied, according to the manifestation of the disease and the cause from which it arises.

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Correspondence.

286. Dr. Samuel Field, of Big Stone Gap, reports a case of a child, 12 months old, in perfect health, that was called a female; but, "upon examination, I found the scrotum and testicles all right; but where the penis should be, a small thing similar to the cliton of a woman, about one-half inch in length, the size of an ordinary penis; the gland penis was not covered by the prepuce, but laid below it, in the shape of X. I pronounced it a male—that is to say, that the male sex predominated in this case, which proves the remarks made by Dr. H. D. Valin."

287. The Maltine Manufacturing Co., 182 Fulton Street, New York, announce a new compound among their list of maltine preparations, that of maltine with cascara sagrada for the treatment of obstinate and habitual constipation, each fluid ounce containing one and a half fluid drachms of cascara sacra. It will be observed that maltine is not so viscid as formerly made, but of a more fluid consistency, and, while retaining the nutritive and diastatic value that has given it precedence over all other malt extracts, it is rendered entirely agreeable to the taste of the most fastidious; besides, as now prepared, it is more easily administered.

Reviews.

BOOKS Received.—"Diseases of the Stomach and Intestines," by Prof. Dryardin Beaumetz; "Handbook of Practical Medicine," by Dr. H. Eichhorst, Vols. I and II; "The Genuine Work of Hippocrates," by Dr. F. A. Adams, Vols. I and II; "Diseases of the Spinal Cord" by Byrom Bramwell, M.D.; "Insanity and its Treatment," by G. F. Blandford, M.D., from William Wood & Co.; "Diseases of Children," by Dr. J. Lewis Smith, Lea, Bros. & Co.; "Manual of Differential Medical Diagnosis," by Dr. G. W. Cutter, G. P. Putnam's Sons; "Practice of Medicine," by Dr. N. S. Davis, Jansen, McClurg & Co.; "Two Obstetrical Herisies," by Dr. S. F. Starkley; "Forty-third Annual Report of the Managers of the State Lunatic Asylum," Utica.

288. HANDBOOK OF PRACTICAL MEDICINE. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics, and Director of the University Medical Clinic in Zurich. Vol. I. Diseases of the Circulatory and Respiratory Apparatus. 103 Wood Engravings. 8vo. Pp. 407. Cloth.

289. DISEASES OF DIGESTION, URINARY, AND GENERATIVE ORGANS. Illustrated by 106 Fine Wood Engravings. Being Vol. II. of the Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics, and Director of the University Medical Clinic in Zurich. This is Vol. VI. of Wood's Library for 1886. New York: William Wood & Co.

These two volumes are the March and June numbers of Wood's Library of Standard Medical Authors, a series with which many of our readers are doubtless familiar, as the low price at which they are furnished, \$15.00 for the set of twelve, published each month, should insure them a place in the library of every physician.

The first volume treats of diseases of the circulatory apparatus, under the headings, Diseases of the Pericardium, Diseases of the Heart Muscle, Diseases of the endocardium, Neuroses of the Heart, Diseases of the Aorta; and diseases of the respiratory apparatus, under the headings, Diseases of the Nasal Cavities, Diseases of Larynx, Diseases of the Pharynx, Diseases of the Bronchi, Diseases of the Lungs, Diseases of the Pleura, Diseases of the Pulmonary Artery, and Diseases of the Mediastinum. The second volume, treating in a similar thorough manner Diseases of the Digestive Apparatus and of the Urinary and Sexual Apparatus. These various subjects have been exhaustively treated in a comprehensive and scientific manner, the author utilizing his pathological investigations in elucidating the history and treatment of disease. The therapeutics of these diseases has received due attention, more than is usual in German works. The treatment recommended is general rather than specific, and largely dietetic.

290. THE GENUINE WORKS OF HIPPOCRATES. Translated from the Greek, with a Preliminary Discourse and Annotations. By Francis Adams, LL.D., Surgeon. Vols. I. and II. Being Vol. VII. of Wood's Library for 1886. New York: William Wood & Co.

The works attributed to Hippocrates are so numerous and so varied as to cover the whole field of medicine; and while many of them are doubtless spurious, it is a task of no small difficulty to separate the true from the false. This has been the task of the author of these volumes, who had not only to decide upon the authenticity of

the various treatises, but in addition to translate them from the Greek, and illustrate them with annotations, arguments, etc., to make them intelligible to the majority of the medical profession. Those who read these works for the first time will be surprised to find how well the Father of Medicine comprehended many of the divisions of medical art, particularly is this true regarding fractures and dislocations. The first one hundred and fifteen pages are devoted to a preliminary discourse upon the origin of Grecian medicine, a sketch of the Life of Hippocrates, a disquisition on the authenticity of his works, and on the physical philosophy of the ancients. The style of the author is very attractive, and these works will well repay perusal.

291. DISEASES OF THE SPINAL CORD. By Byrom Bramwell, M.D., F.R.C.P. (Edin.), Lecturer on Principles and Practice of Medicine, and on Medical Diagnosis in the Extra Academical School of Medicine, Edinburg, etc. 53 Colored Plates and 102 Fine Wood Engravings. Second Edition. New York: William Wood & Co. 1886. 8vo. Pp. 298.

That a second edition of this work has been so soon called for, as well as the fact of its translation into German, French, and Russian, emphasize the favorable reception the first edition received from the profession, while the second edition differs in no marked degree from the first, yet the entire work has been subjected to a careful revision.

Until recently, affections of the spinal were regarded as so obscure as to be beyond the comprehension of the general practitioner; but thanks to the researches of such investigators as Türck, Leyden, Charcot, Erb., etc., upon whose labors this volume is based, the difficulties attending the understanding of these diseases are rapidly disappearing. A new feature in works upon nervous diseases, are the many illustrations which have been introduced, and which greatly aid in the elucidation of the text.

The style of the author is clear and concise, and the thanks of the profession are due to the publishers for including so valuable a work in their library.

292. INSANITY AND ITS TREATMENT. Lectures on the Treatment, Medical and Legal, of Insane Patients. By G. Fielding Blandford, M.D., Oxon., etc. Third Edition. Together with Types of Insanity, an Illustrated Guide in the Physical Diagnosis of Mental Disease. By Allen McLane Hamilton, M.D., etc. 8vo. Pp. 376. Cloth. New York: William Wood & Co., 1886.

This interesting work forms the February issue of Wood's Library for 1886. It is made up in the first part of Lectures delivered at the schools of St. George's Hospital, London. The second part consisting of Types of Insanity, by Allen McLane Hamilton, of New York. The *motive* of the book is the author's conviction that the only method by which we shall gain an insight into the mysterious phenomena of an unsound mind, is to bear in mind that "disorder of the mind means disorder of the brain, and the latter is an organ liable to disease and disturbance like other organs of the body, to be investigated by the same methods, and subjected to the same laws."

The book is a timely one and of interest to every general practitioner, who is liable to be called upon at any time to diagnose and treat a case of insanity. The importance of a sufficient knowledge to determine accurately the mental condition of the patient, and the adoption of proper treatment, cannot be over-estimated. The subject is well handled, the various phenomena of the disease clearly set forth. The chapters on the examination of the insane, and the laws of lunacy in England, are particularly deserving of mention. The nine plates illustrate the different forms of insanity, though their practical value in diagnosis may be doubted.

293. MANUAL OF DIFFERENTIAL MEDICAL DIAGNOSIS. By George W. Cutler, M. S., M. D., Physician to the New York Dispensary, etc. New York: G. P. Putnam's Sons. 1886. Flexible cover. 12 mo. Pp. 161. Price, \$1.25.

This work, which although primarily intended for the use of the student and the recent graduate in medicine, who has not had the experience necessary to the ready diagnosis of disease, will readily find a wider sphere of action, as the compact and concise method of tabulating the distinguishing symptoms of disease render it available to the busy practitioner in any case of obscure or doubtful diagnosis.

It is really a manual of general medical, as well as of differential, diagnosis, condensing the "pith and marrow" of many more pretentious volumes, and covers a much larger field than its title would indicate. It is tabular in form, the distinguishing symptoms of disease liable to be confounded being placed in parallel columns, and represents a vast amount of work upon the part of the author. The introductory chapter deals with the method of taking a case, a matter in which most physicians are a law unto themselves, but upon which, in the interest of scientific investigation, we wish there could be a substantial agreement among physicians. For such a purpose the method outlined in this book would well serve. The book is well printed, and will be found very convenient on the office table.

294. A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, Physician to the New York Foundling Asylum, etc., etc. Sixth edition, thoroughly revised, with forty illustrations. Philadelphia: Lea Brothers & Co. 1886. Pps, 870. Cloth, \$4.50.

The very handsome volume under consideration, the sixth edition of the well known and popular work upon diseases of children, has been so largely revised and rewritten, that a considerable part of the book may be considered as new. The recent advance in the knowledge of the diseases of children has rendered the rewriting of many of the more important maladies, such as cerebro-spinal fever, scarlet fever, pseudo-membranous croup, infantile diarrhoea, etc., necessary. The author devotes considerable space to the care and feeding of infants, a subject in which he is thoroughly at home, from his extensive experience in the various institutions with which he is connected, and in fact, all through the book the author draws very largely upon his store of experience. While stating his own views with frankness upon disputed questions in the ætiology and pathology of disease, he gives also the other side of the question, and avoids discussion of theories except so far as they influence the therapeutics of the various diseases.

On page 297 we find given, as a cause of diphtheria, sewer gas, a point upon which we are compelled to differ from the distinguished author, as sewer gas or gases are incapable of initiating any zymotic disease unless the specific germs of the disease are present, and then the gas serves only as a carrier. Although giving considerable attention to the bacterial theory of the production of disease, Dr. Smith, wisely, we think, refrains from endorsing the theory, which has been pushed to extremes, far beyond what a reasonable deduction from the facts observed would warrant. To those who have had the previous editions of this work it will need no recommendation, while those who have not, should assuredly possess this one.

295. LECTURES ON THE PRINCIPLES AND PRACTICE OF MEDICINE. Delivered in Chicago Medical College, Medical Department of the Northwestern University. By Nathan Smith Davis, A. M., M. D., LL. D., Dean of the Faculty and Professor of Principles and Practice of Medicine in Chicago Medical College, etc., etc. Chicago: Jansen, McClurg & Co, 1884. Pps. 896.

This volume is substantially the course of lectures on the principles and practice of medicine, delivered in the medical department of the Northwestern University, better known as the Chicago Medical College. They represent the views and methods of practice developed in an active practice of fifty years, and are worthy of a more extended comment than our space allows. The years of experience the author has had in teaching has enabled him to present his views in a concise and

practical, yet eminently interesting shape, giving due attention to the cause and course of disease and the best methods of treatment.

It is to the latter that, to most practitioners, the chief interest attaches, and upon this point the author is deserving of commendation, the indications given being full and explicit. Upon the bacteria theory the author maintains a conservative position, evidently not being carried away by the "bug craze" that possesses so many writers of the present day. Upon this point he says, "If we add to these the further fact that every variety of germs found either in the membranous exudations of diphtheria, or in the blood and tissues of diphtheritic patients, have also been found in miguet or curdy exudation upon the mouth and fauces in young children, in the white exudations upon the tonsils and fauces in the last stage of consumption and other wasting diseases, and in the exudations that sometimes appear on different parts of the mucous membrane in typhoid, typhus, and other low forms of fever, we shall find it much more in accord with sound principles of reasoning to conclude that these minute organic forms, called bacteria, micrococci, etc., are simply accompaniments, if not products, of certain degenerative organic processes that take place, to a greater or less extent, in all acute febrile and inflammatory affections of an as-thenic type. The book is well printed in clear type, and we commend it to our readers.

The entire work consists of three volumes on the treatment of diseases of the heart, aorta, and stomach. diseases of the liver, kidneys, lungs, pleura, larynx, and pharynx; and diseases of the nervous system, general diseases, and fevers.

The entire work has gone through four editions in France, and has been translated into Italian, Spanish, and Russian. The present volume has been translated from the fourth and revised French edition. The work is rather a treatise upon the therapeutics of these diseases than upon their pathology, in which, as a matter of course, foods and alimentation play a prominent *role*. The first four chapters, comprising ninety pages, are devoted to a consideration of aliments and regimen—the author being of the opinion that a cure will be brought about more surely by the observance of a strict and well regulated diet than by the administration of drugs. The volume is bound in accordance with the series to which it belongs, and presents a neat and attractive appearance.

296. *DICTIONARY, THE CENTURY.* For the past five years the Century Co. has been engaged in preparing a dictionary of the English language, of which Professor William D. Whitney, of Yale College, is editor-in-chief, —the purpose being to make a more comprehensive work than has yet appeared in popular form, to include, in addition to a very full collection of individual words in all departments of the language, all technical phrases, not self-explaining, in law, the mechanical arts, the sciences, etc. Indeed, it is designed to make this dictionary so complete in its definitions of all branches of science and art that even the specialist will need nothing further. The number of "new" words in many of these departments is said to be surprisingly great. The dictionary will have also a remarkably complete system of cross-references, and will embody in itself a dictionary of synonyms, which will add greatly to its value.

Two or three years must still elapse before it will appear, and in the meantime opportunity is offered by the publishers to those interested in helping on so useful a work to contribute material and suggestions to it. Much valuable matter has been received in this way from many scholars and practical men all over the world.

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No. 5.

Gynaecology.

297. FUNCTIONAL Disorders of Females.—DR. WILLOUGHBY FRANCIS WADE, in the *British Medical Journal*.—The preliminary stage of the reproductive cycle includes the whole life of a woman antecedent to marriage. The hope of marriage, or if not the hope, the idea of its possibility, is never quite extinguished in the female breast. And it must be confessed that events occur from time to time which afford sufficient justification for this tenacity. Disappointment in the realization of these hopes produces different effects upon different mental constitutions. In some cases, it produces a hardening and deleterious effect upon the character; in others, it ripens and intensifies all the most beautiful and charming qualities of the woman. We may say that, if it takes a good woman to make a good wife, it takes a still better to make a good "old maid." And yet it is but simple justice to say that examples of both classes abound. The appearance of the most striking evidence of puberty, the catamenia, is rather the beginning than the end of those changes of body and mind, which result in the production of the woman. We may be permitted to imagine the body divided into that which is nervous system and that which is not. Of these two parts, it is the former which chiefly, that is essentially, distinguishes the woman from the man; which most clearly justifies the statement that the key to the difference between the two sexes is only to be found in the different part which each has to play in the business of continuing the species. The quickness of perception, the rapidity, and within limits, the accuracy of interpretation, the ready responsiveness, the too often fatal, but always interesting credulity—all these are necessary to the successful transaction of the instinctive business of her life, the attraction and retention of an admirer, the detection and annihilation of a rival. Nor is there any incongruity between the higher qualities of the mind and the lower or quasi-instinctive ones.

We are told in a pungent modern satire, acidulated, no doubt, by the unhappy personal experiences of the author, that, in "The coming race," women will claim the privilege now "usurped by men, of proclaiming their love, and urging their suit; in other words, of being the wooing party rather than the wooed."

This gibe is not altogether gratuitous; but, nevertheless, we should all sympathize with, and, according to our opportunities, further the intellectual elevation of, the other sex; if on no other, on selfish grounds, and for the purpose of perpetuating the ascendancy of our own sex; for we know how often, and in how large a decree, great men are indebted for their superior powers to their mothers.

No sensible person would assert that all men are superior, either physically or mentally, to all women. On the other hand, few would deny that, in both these respects, the average of man is higher than the average of woman, or that the highest man is higher than the highest woman.

I have already referred to those qualities which are, by common consent, accepted as being peculiarly characteristic of the female mind; these are acuteness of perception, and rapidity of interpretation. The woman sees many things which pass before a man's eyes unperceived; or, if perceived by both, the woman's conclusions are drawn instantaneously. The man revolves the circumstances in his brain, comes to a conclusion more slowly, and often less correctly. We have here, as it seems to me, the key to many of the functional disorders of women. The same peculiarity characterizes the structure of the whole nervous system, from that of the highest centres of the brain to that of the lowest ganglia of the sympathetic system. This difference in structure is not discoverable by anatomy, however minute. It is by its fruits that we know it. Sensitiveness to impressions, or excitability; facility of transmission of these impressions from one centre to another; this we may be permitted to call "permeability." A clinical phenomenon which has not received due attention, and which I venture to call "the radiation of pain," may be cited in illustrations of this permeability.

The following cases, which I quote as examples of radiation of pain, are worthy of consideration, even by those who may not be prepared to accept my theoretical explanation of them. Some years ago, my opinion was requested in regard to a lady, aged about 32. She had been for a good many months under medical care for general, and somewhat indefinite, ill-health. For some weeks previous to my visit, pains about each subclavicular region and a dry cough had raised fears in the minds of her medical attendants, that she might be becoming consumptive.

My examination confirmed the opinion previously entertained, that no physical sign of lung-disease was to be discovered. We all know that many patients are extremely loath to let us get away from the

consideration of an existent pain to that of any other symptom. She was one of this class. It required, therefore, much insistence to elicit the following facts. Before the pain attacked the subclavicular region, there had been a zone of pain round the middle of the chest; previously to that, a similar zone round the lower part of the chest and the upper part of the abdomen. That, in its turn, had been preceded by pain occupying the middle third of the abdomen; and then we found that the original seat of the pain had been the two hypogastric and the pubic regions. It came out that, though her attention had been engrossed by each new development of pain, those previously existent had never entirely subsided. This history suggested that perhaps, after all, the disorder had an uterine origin; and so it turned out.

On examination, we found that the os uteri was extremely tender, and also, as it was then termed ulcerated. This condition was, in a short time, relieved by local treatment, and coincidentally, all her pains and the cough disappeared, and she was restored to health.

It may not be disadvantageous to diverge here for a moment from our immediate subject, and interpolate a few words upon a very important topic. This is the relation of such a lesion as that just mentioned to the symptoms described, and more especially to the earlier symptoms.

A very large number of female cases may be resolved into three groups or categories. The first comprises local lesions, such as the one above mentioned, and flexions, versions, and fibroids accompanied by pains and irritations in or near the lesion. In the second group, we find the same lesion, but unaccompanied by any symptom whatever. In the third we put cases with similar symptoms, but without any discoverable local lesion. Experience has taught me that, by treatment, not a few cases may be removed from the first class into the second; that is to say, that the symptoms complained of may be removed, though the anatomical changes remain precisely what they were. In one case, the treatment required may be, as in the one quoted, local; in another, it may be directed to the part or parts secondarily affected; whilst, in a third, it may be of a purely general character, aiming, for example, at the correction of some disturbance of the blood-forming or blood-purifying organs; or, which may or may not be the same thing, of those complex conditions which we term gout or rheumatism. It seems to me equally true that cases may, by influences sometimes traceable, at other times mysterious, be removed from the second class into the first. In other words, the anatomical lesion may, in any one case, be at times latent, and may at other times manifest itself by symptoms, and such alternations may recur with indefinite frequency. In saying this, we are admitting that the symptoms are epiphenomena, caused by or arising out of the gross

lesion ; and this I believe to be in some instances true. But on the other hand if we admit, as I contend we should, the existence of similar symptoms without any gross lesion, then probably in some cases the concomitance of symptoms with such lesions is purely accidental. These opinions are of far-reaching importance to practice in many ways, some of which I need not point out. But there is a widely spread feeling in the profession that many women have been subjected to unnecessarily protracted courses of local treatment depleting their pockets, impairing their delicacy, and even attenuating their morality. If such things are, it may be that a frank recognition of these views would safeguard patients from such meddlesomeness.

One other very important question awaits an answer. What is the pathological explanation of these symptoms? If we say that they are partly neuralgic and partly circulatory, the relation of the two being obscure, perhaps it is the best answer we can at present give, indefinite or insufficient though it may be. It is certain that some of these cases are relieved, and that very speedily, by a combination of ergot with some of the bromides. Other cases seem rather connected with disturbance, especially with insufficiency and concentration of the secretion of the kidneys. It has long appeared to me that such renal disorders are more resented by the female than by the male system ; and that, in the former, this resentment more often finds expression in the state of the generative organs. I would, at all events, ask you, whether you accept or reject the speculative opinions with which I have associated them, to receive these therapeutical hints as at least worthy of being tested in practice. There is one other suggestion to be made in reference to this subject. It is that some, possibly many, of the cases in which no substantial disease can be detected, may nevertheless be outside the category of what we style "functional disorders." It may be that they are really cases of slight and more or less transient inflammation of the uterine appendages, including in this term the adjacent peritoneum. An adequate discussion of this most important question would be outside the scope of my lecture. But it is essential to remember that peritonitis is not necessarily attended by rise of temperature.

To return now to our more immediate topic ; the circumstances of a second example of the radiation of pain were as follows.

A young lady, aged about 18, was represented to me, both by her experienced medical attendant and by herself, as suffering from excruciating pain in her forehead and temples ; nor did her aspect belie this representation. A course of inquiry, similar to that pursued in the former case, elicited a similar sequence of events. The frontal pain had been preceded by pain, occupying the vertex and the head on each side of it. That again had been preceded by pain towards the back part of the head, which had succeeded to pain in the extreme back of the head and upper part of the neck. The original

seat of pain having thus been arrived at, its cause was soon ascertained. It appeared that, some months before, the patient had occasion to "duck" in order to pass under a transverse beam; coming up too soon, she struck the top of her head with sufficient violence to render her, for a short time, insensible. It was not for two or three weeks that the pain began in the neck and occiput; and it was not till three or four months afterwards that I saw her. She was suffering from caries of the cervical vertebræ; at all events, under treatment based upon this view, she ultimately recovered. But the question of diagnosis is of no particular moment as regards my present object. In this, as in the former case, although the attention of the patient was concentrated on each new zone of pain, the previous pains remained; very much as a new baby causes the previous one to sink into comparative oblivion, although it does not efface it.

In another somewhat analogous case of occipital headache, it required a good deal of perseverance to arrive at the truth. This was, that the patient was suffering from fissure of the anus; this being cured, the headache ceased.

The two cases above narrated are, no doubt, exceptional in regard to their intensity and completeness; but these apart, I cannot admit that they are at all exceptional. On the contrary, I think that the same kind of thing is of very ordinary occurrence; and that many incomprehensible pains may, under the guidance of this theory, be traced to their source, and so successfully dealt with.

You will have foreseen that the introduction of the word "hysteria" was, sooner or later, inevitable, and, perhaps, may give me some credit for having abstained from it so long. No one, probably, conserves the notion that hysterical disorders necessarily originate in that anatomical entity known as the uterus. But let us regard the uterus not merely as an anatomical entity, but as a symbol, representing, not simply itself and its appendages, but the sum-total of the peculiarities of the female organization. The name hysteria, of which, by the way, we cannot rid ourselves, will then serve our purpose without offence. It will embody, not the obsolete conception of a ruder epoch, but one which is in accordance with a wider generalization from deeper knowledge of the secrets of nature. It will help to keep present in our minds, as names ought to do, the existence of an extensive series of phenomena, the correlation of these one with another, and their harmony with the reproductive obligations of the female sex. It will suggest, also, what many insufficiently realize, that when we qualify a disorder or a symptom as "hysterical," we have got not to the end, but rather to the beginning, of our clinical investigation. For it is only a first step, though often a very difficult one, to say, "this is one of those nervous disorders which are peculiar to women." It still remains for us to discover, if we can, in what particular portion of that immense and complex system the mischief

lies ; whether it is intrinsic in, or extrinsic to, that portion ; whether it is due to local or to general causes ; whether it is to be met by dietetic, hygienic, moral, or medicinal treatment ; if by a combination of these, by which, and in what measure of each. Above all, let us remember that these disorders may make life valueless, though they rarely destroy it ; and further that, though difficult to cure, they are rarely incurable, if due diligence and sound judgment be brought to bear on them.

Before proceeding to consider some of the details of this subject, let me ask your assent to certain postulates of a general character. These will serve the useful purpose of helping in the distinguishing of hysterical cases one from another. Let it be granted then :

1. That any nerve-centre (that is, any collection of gray nerve matter) may have its excitability exalted, so that it becomes unusually responsive to its accustomed stimulus.

2. That any nerve-centre may have its excitability lessened, so that it becomes less than usually responsive to its accustomed stimulus.

3. That the permeability of any part of the nervous system may be increased.

4. That the permeability of any part of the nervous system may be diminished.

5. That increased permeability may cause ganglia to co-operate which do not usually do so. That is, that excitement of one ganglion may excite the action of other ganglia which, under other circumstances, it would not excite.

6. That diminished permeability may have the contrary effect, so that ganglia which usually act consentaneously, may cease to do so.

7. That any one or more of the cerebral ganglia which usually co-operate may be thrown out of gear, so that it, or they, cease to co-operate with the rest.

8. That the ganglia not thrown out of gear continue to co-operate as usual.

It may be that nerve-trunks have their sensitiveness or excitability increased or diminished. I do not propose either to deny or to affirm that this is so. The result would be the same as if the centre with which they are connected were affected.

Let us turn, now, to the consideration of some diseases commonly termed hysterical ; and, first, to a common form of hysterical paralysis.

The patient has lost, almost completely, the power of moving one or more limbs—almost, but rarely quite completely ; for I can recollect only one case in which no power of movement remained. The motions which do remain are, although extremely limited in area, yet often of considerable complexity. Such a paralysis, though remaining constant for weeks or months, or even years, may yet disappear in an

instant, under the influence of sudden and violent mental emotion—such, for example, as an alarm of fire. Hence it has very properly been termed functional, as distinguished from organic. How are we to interpret this curious phenomenon? It was long ago suggested that we should look upon it as a paralysis of “the will;” and this view is still pretty generally current.

Without raising abstruse metaphysical questions, I fancy that, in speaking of the “will,” we commonly include two separate and distinct ideas—one, the idea of a wish to do something; and the other, of our power to give effect to that wish. If we consider “paralysis of the will” by the light of this analysis, we come to this result: firstly, that, in regard to the second idea, it is a mere clothing, in pseudo-scientific phraseology, of the fact that the patient has lost the power of voluntarily moving her arm or her leg. It contains no explanation of this fact; and, therefore, conveys none. It is, in short, a meaningless phrase. Secondly, as regards the first idea, it is untrue in fact. These patients, so far as I have been able to understand them, have a very strong wish to be able, and are deeply distressed by their inability to move the limb. They are also extremely grateful to us when we have cured them. To arrive at a more adequate interpretation of these cases, we must go some way round, and consider subjects which may, at first sight, appear remote. Nature is, in some cases, not content to leave the activity of a nerve to be regulated by the greater or less amount of force emitted by its ganglionic centre. A second nerve, arising from a different centre, is told off to diminish, or even arrest its action. Such superior nerves are called, as you know, “inhibitory” nerves; and the control which they exercise is called “inhibition.”

It is not difficult to perceive that the method is employed in the highest departments of the nervous system, as well as in the lower ones. We find evidence of this operation in connection with the high cerebral ganglia, the organ of the mind, as we call it. In the passage “Thou shalt renounce, thou shalt renounce, thou shalt renounce—this is what the whole world is hoarsely crying to thee,” “inhibit” might be substituted for “renounce,” without any alteration of the meaning. An inhibition of this kind, which at first requires a voluntary effort, acquires, by frequent repetition, an involuntary or automatic character. Most of us can see a desirable object in the possession of another, without any nearer approximation to an intention of annexing it than is contained in “I wish I had one like it.” In the child, this inhibitory power is, at best, but latent, and requires for its development, moral and social education. In some children it is difficult to develop it, even when the reasoning-powers are indirectly stimulated by irritating applications to the peripheral nerves distributed to the skin covering the gluteal muscles. In some few, it appears to be absolutely non-existent; we hear of individuals

in whom the reflex act of taking is, all their lives through, the inevitable result of the act of seeing a desirable object. Some little mass of gray, or some slender thread of white, nerve-tissue, is wanting. The same thing is seen in some savage races, who are incurable pilferers.

We find, in another set of circumstances, something even more directly bearing upon our subject. We have most of us, at some period of our lives, run up to a hedge with the intention of jumping over it, but, not "liking the look of it," stopped short, without making a spring. This is a rational and intelligent act, though it may afterwards be evident that it was a mistaken one. We have, also, similarly run up and made a spring, but, at the same moment, allowed the principle inelegantly called "funk" to intervene, with the result of inhibiting our muscular action, and thereby "bringing us to grief;" while a second, more confident—that is, an uninhibited effort—has carried us safely over. The secret of what is called "Dutch courage," lies partly, at all events, in the fact that one great effect of alcohol is to relax or paralyze inhibition. To this, mainly, is to be attributed the loquacity of intoxication; and so is the proclivity to the committal of crimes, by persons under the influence of alcohol. Examples of the higher forms of inhibition are common among animals. Most of the tricks taught to dogs depend upon it. The exertions of a horse who has, on some previous occasion, been severely flogged, are, in some cases, inhibited by his hearing the sound of a whip raised to strike him.

Let us now turn to an entirely different class of phenomena. Under certain circumstances, those parts of the nervous system which usually, and, for useful purposes must, act in concert, cease to co-operate, one portion remaining active, while another portion is in a state of suspended animation. This is what happens spontaneously in sleep-walkers. A similar condition is producible artificially by means of mesmerism, hypnotism, and the like. In some instances, there has, no doubt, been fraud and imposition practised by unscrupulous performers; but, the most liberal abatement having been made on this score, there remains a series of facts of the most interesting description. If you or I were told that we could not lift from the table a pocket-handkerchief because it was so heavy, we should at once confidently proceed to show that we could. Why? Well, to put it shortly, because we should believe our experience, and disbelieve what we were told; but, if a hypnotized person were told the same thing, he would be unable to lift it. Why? Well, again, to put it shortly, because he would believe what he was told, and would be unable to correct the statement by reference to his experience, in consequence of some portion of his brain being out of gear; and something like this, I submit, happens in hysterical paralysis, in which, on this theory, the primary cause would be not deficient, but

excessive, nerve-action. Muscular action is inhibited by the belief that it is impossible. A principal element of cure, then, is to convince the patient that her belief is erroneous. It is not easy to do this directly, for it is notoriously difficult to remove any belief by the mere assertion that it is erroneous, or even by argument. Such a course, indeed, is likely rather to strengthen than to weaken a belief. In these cases, a little benevolent trickery, or pious fraud, is often successful, as in the following case.

A young girl was brought, by several friends, to the General Hospital, when I was house-physician. The whole party was in a state of great lamentation and woe. It appeared that the girl had lost the use of her left arm an hour or two before; the same thing had happened on two previous occasions, and the medical man who had attended her had, so they stated, told her and her friends that a third attack would be certainly fatal. Feeling, after examination, pretty certain of the real nature of the case, I pacified her by saying that, although it was no doubt a serious matter, there was every probability that she would not die, and even good hopes that she might recover the use of her arm. She was taken in and sent to bed. It does not do to pooh-pooh these cases. You may succeed; but if not, you lose all control over the patient, and then good-bye to any prospect of usefulness. The next morning, she moved her arm a little, as she had done the night before. She was comforted by my telling her that it was a good sign that the paralysis had not increased. The following morning, she again raised it to the same extent as previously. I put my finger a couple or three inches higher, and said, "Oh, but you moved it up to here yesterday;" she immediately moved it up to my finger. On the fourth day, the same manoeuvre was repeated; on the fifth, the same trick being repeated, she got the tips of her fingers to her lips. I said, "How much farther do you want to get them?" She laughed, and the case was at an end.

I saw, some years ago, a fasting girl. The amount of food or even water that she was able to take was incredibly small. She was never exhibited; her emaciation was amazing, and there was no ground for reasonable doubt as to her veracity. She dwindled and died some time after I saw her.

It is difficult to resolve the problem presented to us by these cases; but I am inclined to associate them with the preceding class, and to think that they may depend upon a belief that eating is impossible. And this belief may have had originally a substantial basis. From the dangerous extreme above mentioned, we can, without any distinct break, see all degrees of inappetence up to slight anorexia, or indifferent appetite. The slighter cases are undoubtedly often due to gastric catarrh, not necessarily of great severity. In saying this, it is perhaps right also to say that, in my opinion, there is little difference in point of frequency of occurrence between gastric and bronchial catarrhs.

Gastric catarrh, though sometimes provocative of ravenous, is more commonly associated with diminished, appetite. The view here suggested seems to me to receive support from the success of the method of treatment originated by Dr. Weir Mitchell. Take such a girl from her home, place her in the midst of new surroundings, of fresh faces, inspire her by confident assurances of her recovery, tell her you are going to restore her appetite by a new treatment, insist upon her taking food, subject her to massage, shampooing, rubbing, or whatever you like to call it. The effect is speedy, the result surprising. The quantity of food consumed soon becomes as remarkable for its largeness, as it had before been for its exiguity.

Cases of hysteria may be usefully, if not scientifically, divided into three classes: first, the simple, genuine, or involuntary cases; second, those in which there is unconscious exaggeration; third, those in which there is conscious fraud or deception. These classes might, perhaps, be as properly described as stages, for there is no doubt the first may glide into the second, and afterwards into the third; or, in other words, there has probably been a time when a case of the third class has belonged to the first. We meet, especially in the third class, with some very curious cases. And oftentimes they are not only curious, but puzzling. For example, a middle-aged unmarried lady's maid; precise and respectful, and quiet in manner and demeanor, as became the long and highly valued domestic of two or three decorous and not over youthful gentlewomen, came to the General Hospital. She had been living in London, but had been obliged to leave her place in consequence of feeble health, caused by repeated attacks of "inflammation of the bowels, with sloughing of the mucous coat." Oh no! not dysentery, but inflammation of the small bowels. So she had been told by several medical men in London, whom she named, who had been called in by her mistresses from time to time. Such were her statements; and, though I cannot vouch for their truth, I saw no reason to discredit them. Her reason for coming to the hospital was, that she feared that another attack was impending. After a few days, during which she insisted that she was suffering from gradually increasing pain in the abdomen, but no objective phenomena presented themselves, she said she had diarrhoea and, a few days after that, she produced a liquid stool containing some smooth-edged, flat, whitish pieces of something. We found by experiment that these sloughs could not be distinguished, microscopically or otherwise, from pieces of chamois-leather or kid-glove, macerated in water for twenty-four hours. I told her what she had passed was not mucous membrane, but something she had eaten; and, a few days afterwards, she found herself so much better, that she would like to go home, and she went.

It is not much use arguing or quarrelling with these persons. What you want to do is to take the romance out of their case; to show that,

so far from your thinking them remarkable, and therefore interesting, you know them to be commonplace and uninteresting.

On hysterical retention of urine, I have only two words to say. It is very commonly the initial phenomenon, and is most useful, therefore, as furnishing the key to subsequent manifestations; and, secondly, it is not often repeated, when its treatment is left in the hands of the nurse, instead of being undertaken by the medical man.

Hysterical coma is a very curious condition, and is commonly, in some degree, connected with alcohol. It is most quickly relieved by an enema of assafoetida.

298. VICARIOUS Menstruation.—DR. ROBERT BARNES in the *British Gynæcological Journal*.—No greater service can be rendered to science than to study afresh by the light of advanced knowledge and improved methods of investigation doctrines started originally on limited authority, and thenceforth acquiring strength by tradition unsupported by increment of evidence.

Is this the position in which the doctrine of vicarious menstruation stands to-day? Does it rest mainly on tradition, or is it substantiated by the evidence of recent observers? and is it in harmony with actual knowledge of physiology?

It is a question of deep scientific and practical interest. As we proceed we shall find abundant proofs of a proposition which has often served me for a text, namely, the study of menstruation, which, like the study of gestation, throws the most instructive light upon many physiological and pathological problems.

Let us start by defining what we mean by menstruation proper, and what we are to understand by vicarious menstruation.

We are met at the outset by this difficulty: physiologists are not agreed as to what causes or constitutes normal menstruation. This difficulty may be evaded without seriously affecting the argument by putting aside the controversy as to whether the menstrual flux is caused or not by the maturation of ovules. My own observation inclines strongly to the conclusion that ovulation is the immediate cause of the flux. I will not dwell upon it now, but will at once offer a definition of menstruation based simply upon admitted objective phenomena. Briefly, then, menstruation consists in the periodical discharge of blood from the uterus. This, the most conspicuous objective phenomenon, is, however, only one act in a complicated process, of which the genital system is the focus, but upon which the entire organism is at work.

Briefly, the old definition may be accepted: "Menses per vias insolitas erumpentes; menstruatō vicaria." Leishman interprets this, saying that the menstrual molimen is relieved by a discharge through an unwonted channel. Flamant applied the term *xenomenia* to express the idea of menses taking a strange course. I proposed the term 'ectopic menstruation' to express the idea of menses escaping at a

wrong place. This term has the advantage of including both vicarious and supplementary menstruation.

Whitehead says ("Abortion and Sterility," 1847): "Vicarious menstruation is a form of dysmenorrhœa for which Nature provides her own remedy, by withdrawing from the system, through a channel not originally adapted for the purpose, that excess of circulating fluid which if retained would certainly lead to injurious consequences." The vascular plethora may be in some cases relieved by a "regular and timely distribution of the principles with which the blood is surcharged; which takes place in the manner of adipose deposition and general textural increase."

First, what is the source of the blood in normal menstruation? Strictly speaking, it issues from the mucous membrane of the body of the uterus and the Fallopian tubes. This has been verified by Coste and others, myself among them.

But menstruation may take place when there is no uterus; and this fact is of crucial importance in support of the doctrine of vicarious menstruation. Let us trace some other constitutional phenomena attending menstruation. Laycock says ("Nervous Diseases of Women"): "When we remember the influence of the ovaria in exciting abnormal development of other structures connected with them, as the larynx, mammæ, and thyroid body, we may see that the changes which they undergo often resemble those consequent on pregnancy."

What are the leading constitutional phenomena attending menstruation? Menstruation is immediately preceded by *increased nervous tension and mobility*, manifested in exalted psychical, emotional, and reflex action.

Closely following upon the increase of nervous tension is *increased vascular tension* manifested by turgescence of the capillary and venous system, and demonstrable by the sphygmograph. The vascular tension falls quickly when the menstrual blood-flow sets in. There is increase of temperature to 5° ; increase of urea.

The volume of blood is increased. Audral and Gavarret showed that the quantity of carbonic acid exhaled by the lungs rises until the age of 30 in men, but only till puberty in women; moreover, that in women it falls off as soon as menstruation is established, to increase again after the menopause. If for any cause the menstrual flow is arrested for several months, as by pregnancy or lactation, the quantity of carbonic acid is increased as after the menopause.

The analogy between menstruation and pregnancy is traceable in detail. Assuming that the *primum mobile* in either case resides in the ovary; the first step is ovulation, or the ripening of an ovum, and the depositing it in the uterus. But the work of preparation begins in the uterus long before the extrusion of the ovum from the ovary. In response to the development of the ovum, nerve-force and blood are attracted to the uterus, the whole organ swells, becomes heavier

and more sensitive, softer from the permeation of its walls by fluid ; the utricular glands of its cavity enlarge, secrete more freely ; the mucous membrane swells, grows, is developed into a thick, soft pulpy membrane, the decidua. This process is the representation—to this point—of pregnancy. It is marked by certain signs, more or less distinct, in different cases. But in all there may be observed exalted nerve-tension, expressed by greater emotional and reflex mobility, sometimes revealed in neuralgia, in vomiting, and even in convulsion. There is increased central nervous irritability, and there is the eccentric source of irritation in the uterus. Concurrently, there is observed a marked increased of vascular tension. The pelvic vascular region especially feels the attractive force of the uterus. Then there comes the casting-off and casting-out of the useless decidua ; the process is traumatic. This is the analogue of labor. The developed muscular fibre contracts under the influence of the intensified diastaltic function. Hæmorrhage attends. The mimic labour over, the blood-current and nervous energy are lowered, and the excess diverted from the pelvis, and for a time the ordinary equilibrium of the economy is restored. The uterus returns to its wonted state, and the breasts become quiescent. This history presents points of similitude with that of gestation at every stage.

The immediate purpose of menstruation is to discharge the superfluous material and energy prepared for the missed pregnancy. In the later stage there is seen the analogue of puerpery. The superfluous blood is thrown off ; absorption is more active.

Lactation is another function which requires to be studied in relation to menstruation. It may be regarded as a substitute. Commonly menstruation is suspended during lactation ; but not seldom menstruation returns before the secretion of milk ceases. It is remarkable to observe how, in some cases, the subjects get fat and stout during lactation. It seems as if the material elaborated for lactation is imperfectly expended in its proper use ; and that a portion of the surplus is expended in the formation of fat. When lactation is over, and menstruation returns, the work of absorption sets in, and the fat disappears.

The analogy is further illustrated by a case from Trousseau. This excellent clinical observer relates a case of wet-nurse who, whilst nursing, had several attacks of hæmoptysis. She fell away, and Trousseau thought of phthisis, but there was nothing of the sort. She became pregnant, had a fine child, and went out again as wet nurse.

These hæmorrhages have one characteristic in common : they are conservative in design, and, probably, also, in fact. In this character, as in their ectopic occurrence, they resemble the hæmorrhages of abortion in uterine gestation, and the cataclysmic hæmorrhage attending rupture of a tubal gestation. Indeed, in these cases of tubal gestation hæmorrhage comes from the uterus as well as from the gestation-sac.

The tendency to ectopic hæmorrhages during pregnancy is strikingly illustrated in the following case: "In 1875 I saw with Dr. Lees, of Camberwell, a woman seven months gone in her fifth pregnancy. She was in fair health three weeks ago, when her husband went to sea in very bad weather; she feared he was drowned. Headache, giddiness, and some disturbances of sight came on, and her face was somewhat puffed. She had not noticed any movement of the child for a fortnight. Convulsion broke out on the 23d and 24th. Her ring was a little tightened; there was no other mark of dropsy. Some days before the first fit she had vomiting of blood. Labor was provoked the same day; some convulsive symptoms appeared. The fœtus was expelled dead; it had been dead some time. A severe fit attended the extraction of the placenta. She bled at the nose, and considerable uterine hæmorrhage took place. After this there was no return of convulsion; the symptoms were those of anæmia; the urine contained much albumen, which lasted for some time. This woman always had slight hæmoptysis during her pregnancies."

299. VICARIOUS Menstruation through Both Ears.—PROFESSOR STEPANOW gives an account in the *Centralb. f. Gynak.* of a young girl who at the commencement of menstruation suffered from various nervous disorders and paralysis of the lower extremities. These gradually disappeared, but the menses did not present themselves and in place of them was a hæmorrhage, first from both but later from the left ear only. The hæmorrhage lasted from one to two days and was accompanied by palpitation and pain in the cardiac region. A minute examination of the ears demonstrated the non-existence of any disease; the hearing was normal. U.

300. PULSE Invariability in Menstruation, Regardless of Posture.—The fact that the pulse of the normal male beats from ten to fifteen strokes more per minute when the body is in a vertical position than when lying down, has long been recognized, and until a very recent period it was assumed that the same difference existed in the pulse of the female. Graves first pointed out that in cases of cardiac hypertrophy the pulse remains constant in all positions. More recently, Jorissenne discovered that in pregnancy the same constancy exists in the female, and suggested this fact as a diagnostic test of that condition. *La France Médicale* now announces that M. P. Louge, intern of the Marseilles Hospital, has discovered that in women there exists during the menstrual flow the same constancy of pulse in all positions of the body. It is exceedingly difficult to account for this phenomenon by any known physiological law. Cardiac hypertrophy cannot be invoked, and the only hypothesis that I can suggest is that there is an augmentation of the tension of the blood during menstruation—a suggestion which seems to be supported by certain clini-

cal phenomena of the catamenial period. *St. Louis Med. and Surg. Jour.*

301. DIABETES, The Influence of, on Gestation, Parturition, and Menstruation.—According to many authors, diabetes renders women sterile. Six cases studied and treated by Dr. Lecorché contradict this theory. His six diabetic patients were delivered of children at term, but they were all delicate. One child died two days after its birth; another, when 21 months old, became hydrocephalic with polydipsia. There was no sugar in its urine. A third had a double hydrocele, and was also hydrocephalic, and could not live. Dr. Lecorché concludes that diabetes does not render women sterile. When they do not conceive, it is uterine lesions, resulting from diabetes, that cause their sterility. Diabetes has direct influence on the process of gestation, impairs foetal nutrition, and is favorable to faulty development, especially hydrocephalus. Diabetes often produces dysmenorrhœa and amenorrhœa. Early menopauses may result from an over-looked diabetes. The menses may reappear when the sugar disappears. According to Dr. Lecorché, metrorrhagia in a diabetic patient indicates a coexistent uterine affection, and is not the result of diabetes.—*British Med. Journal.*

302. SECRETION of Urine by the Stomach.—*La Medicine Contemporaine* in its reviews gives an account of two cases of convulsive hysteria under Professor Baccelli (of Rome), in which followed successively, hæmatisis, epistaxis, ischuria, and finally complete suppression of the urine, during a space of some years. The suppression of the urine was accompanied by copious vomiting, which afterwards ceased, lasting in one case fifty days. The cases were treated with pilocarpine and hypodermic injections of urea. The matter vomited was analyzed with scrupulous care, as was also the saliva, and showed all the physical and chemical characters of normal urine.

These two cases so singular must be attributed, according to the words of Professor Baccelli, to a profound disturbance in the exchange of organic material in the processes of assimilation and disassimilation. He believes it to be due to a lesion of the nervous centres which govern the activity of the secretion from the kidneys.—*Chronica Medica Chirurgica.* U.

303. RETENTION of Urine from an Unusual Cause.—Dr. MEADOWS in *Brit. Gyn. Jour.*—As far as I know, this cause is entirely unique, I propose to relate the following case:—

A young gentleman from one of the hotels in town brought one afternoon his wife to my consulting-room, telling me that she was in great distress from a swelling in her belly. Finding it impossible to examine her carefully in my room, I went to her hotel, and found on examination a tense round tumor, extending up to the umbilicus.

She informed me that she had passed water recently, and had a constant desire to do so. Before proceeding further, I did what I always do in all pelvi-abdominal tumors, viz., introduced a catheter. As a result I removed about two quarts of urine. Being at a loss to know the cause, on inquiry I found that she had been married two days previously, and that since the night of her marriage she had complained of more or less distress, and had passed water only in very small quantities since. On examination *per vaginam* I found that the hymen, which was unusually thick and fleshy, and which was of the usual crescentic form, had been completely torn in the centre, and that the mucous membrane covering the posterior vaginal wall had been deeply lacerated for at least an inch. At the time of first intercourse there had been considerable pain and some hæmorrhage, the patient stating that afterwards she had felt sick and faint. Both parties believing what had occurred to be the usual state of matters, the husband renewed his attempts later on in the morning, but since that time until she saw me no further intercourse had taken place.

I mention this case, firstly, for its extreme rarity. Irregular ruptures of hymen have been already discussed in this Society in an exhaustive paper communicated by Professor Schroeder, although no mention is there made of deep laceration of both hymen and vaginal wall such as that which I have described. Twice before I have seen as a result of violent intercourse considerable and even deeper laceration of the posterior vaginal wall than in the previous case, but unassociated with retention of urine. Secondly, the case belongs to that class of retention cases which are reflex in their causation. It belongs exactly to the same class as retention of urine in the puerperal woman from laceration of the perinæum, or as in retention arising from a urethral caruncle.

Winckel has shown, and in the paper by myself to which I have already referred I found, that catheterism is more frequently required in child-bed the greater the injury to the perinæum, and it is probable that the relation between the necessity for catheterism and hymeneal laceration may be even closer.

The retention of urine is, in my opinion, not due, as some have said, to the patient voluntarily retaining her urine from the dread of allowing it to come in contact with a raw, tender surface, and as a consequence the retention becomes involuntary from over-distension and temporary paralysis of the muscular coat of the bladder. Rather it is due to a reflex mechanism. It seems to me that this case, in common with all those of perineal laceration accompanied with retention, arises from tonic spasm of the sphincter vesicae, caused by the stream of afferens-stimuli reaching the centre from the nerve-endings in the lacerated wound.

304. OVARY Expelled from the Anus.—DR. J. C. TEDFORD in the *St. Louis Courier of Medicine*. Mrs. S., aged about 28, had three children and three miscarriages. She was slender, and not tall. By a mistake of symptoms, in November, 1885, passed a uterine sound, without resistance, some four inches into the uterus, and on January 9th, 1886, a small foetus was expelled. Considerable hæmorrhage occurred, but was checked in half an hour and she rallied well. On January 14th, while seated upon the chamber, she was taken with tenesmus and a disposition to strain, and had severe pains in her abdomen. She could not resist the straining efforts until a tumor was expelled from the anus. Being sent for at once, Dr. Tedford found her lying on her side in bed, and a red, cone-shaped tumor protruding from the anus—not large enough to be a womb, and not bleeding. Digital examination per vaginam showed the womb all right, turned to the side, and a little higher up in the pelvis than natural. Per rectum, the finger showed the tumor had a pedicle, extending upwards to a point almost as far as the index finger could reach; but by firm pressure upwards, he could feel the pedicle pass over a shelf, out of the bowel, through a rent in the rectum. This shelf seemed massive and thicker just under the pedicle than at any other point surrounding it. The tumor was larger at its red protruding end and faded in color toward its smaller end, and was solid to the touch. Dr. Faulk was called in consultation; and agreeing that it was a protruding ovary, decided that it must be cut away. On touch it was very painful to the patient. The ovary was cystic. Dr. Dysart ligated and cut away the tumor or cystic ovary. A constant discharge of bloody, watery fluid from the rectum followed the operation. The cyst was filled with an almost transparent, whitish substance, tinged a little yellow, and semi-solid in consistency. Quinine and opium were given internally, and antiseptic washes used locally. Afterwards a suppository of iodoform, tannin and morphine was used in the rectum every eight hours. The temperature rose, and the pulse became faster and faster, until she died, on the 20th, from peritonitis and tympanites. On the 17th, the patient complained of a weight in the rectum, as if something wanted to come away. The finger detached a substance extending down to the sphincter ani, and upward to a point above the pedicle of the amputated ovary. The old pedicle seemed to come out, and was a direct continuation of tissue from just above the pedicle of the former operation. Moderate traction on the tumor drew it out at the anus. A ligature was applied and the tumor punctured, letting water out of the tissues, reducing the size of the mass, so that but a small fraction of tissue was cut off. The pedicle was replaced, and the treatment continued.

Post-mortem.—On opening the abdomen, no omentum covered the bowels in front, the bowels being in direct contact with the abdominal wall. The omentum was gathered into a wad, or mass, on the

left side near the crest of the ilium, and was yellowish white, and greatly softened in texture. The womb and broad ligaments were dark red, and relaxed. The stump from which the left ovary had been cut had slipped out from the ligature into the pelvic cavity. The rectum and lower portion of the colon were firm to the touch, as if filled with something, which something proved to be animal tissue instead of fæces. Intussusception was demonstrated. The ligature upon the pedicle showed the entrance of the ovary into the bowel, and also that that portion of bowel was the lower end of the invaginated portion, which explained the coming down of the second or fluid tumor on the third day after the first operation. The ovary, covered by peritoneum, entered the bowel in the sigmoid flexure, and passed downwards into the rectum, dragging the portion of bowel along the rent, and opening into the bowel below.

305. AMENORRHŒA.—DR. J. MILNER FOTHERGILL writes to the *Medical Brief* as follows:—When a girl has no vagina she can not menstruate. Occasionally, it turns out that this is the explanation why a condition of amenorrhœa does not yield to treatment. Such cases, however, are not common enough to render it desirable to examine a girl before prescribing for her, where the menses are absent.

Puberty may appear before the age of twelve; and such seems commonly the case with Anglo-Indians. Dr. Robertson found that, as a rule, puberty was reached by town girls at an earlier age than with country girls. Menstruation is described as “a surplus-wave of nutrition;” and as regards amenorrhœa in puny organisms, it is well to keep this definition clearly in view. How far lewd thought and improper practices can hasten puberty, is a subject on which little is known. That sexual feelings can be roused and gratified anterior to the arrival of puberty, is a certainty. Sometimes puberty comes on while the stature is still that of a child; just as in other instances it is delayed till the full stature of womanhood is attained. Some women never menstruate—while others cease while still young. One patient, in answer to my questions, informed me that her menses ceased at the early age of twenty-six.

It is often an important matter to ascertain at what age the catamenia made their appearance; and also to learn if they have appeared regularly, have been profuse or scanty, and whether they have set up much pain or constitutional disturbance. If a woman is regular as to time and amount, she is not in bad general health, whatever she may happen to complain of. On the other hand, if the flux has been irregular in time, and either deficient or excessive, the fact has its significance.

Amenorrhœa may be complete, or only partial. As the first, it may merely be delayed. If the girl be otherwise well, it is questionable how far it is desirable to attempt to stimulate the reproductive

organs. To do so may be to develop or encourage feelings which may exist and be troublesome enough without any such encouragement. Speaking broadly, it may be said that the older the organism, and the greater its experience, the less the perturbation produced by the inrush of new ideas which are cotemporaneous with the physical development. When these new feelings, with their accompanying changes in the physique, come upon a budding organism at an early period, they produce a profound impression; and sometimes sweep all before them. Consequently we, as medical men, must bear all this in mind when asked to prescribe for a girl with amenorrhœa. Frequently it is desirable to assure the mother, or guardian, that it is well to wait and see what Nature will do. Until the age of sixteen—the age at which the present law of England allows to a woman any rights in her person—is reached, probably it is well to do nothing; unless there are very distinct reasons for interference.

When the appearance of the menses is delayed, mothers—especially of the humbler ranks of life—become uneasy. Poverty has its disadvantages, as we all know; and limited accommodation means a mingling of the sexes more than is desirable; with such consequences as can readily be imagined. When a girl has menstruated and the flow ceases, a certain misapprehension pervades the maternal mind. The cessation of the flux may mean pregnancy, or it may mean the oncome of consumption. These are the two great objects of the mother's disquiet. The reappearance of the discharge at once eases her mind as to the first, and lessens her anxiety as to the last. If menstruation be a "surplus wave of nutrition," it is quite clear that an imperfectly nourished organism simply can not afford the loss. Rapid growth, with its demands upon the system, will arrest the menstrual flow. Malnutrition will produce the like result. Nature steps in with a conservative design, as if she could reason. "The system can not afford it," is my common remark to mothers who are anxious. As physician to a Chest Hospital, this aspect of amenorrhœa is constantly presented to me. Anæmic girls commonly are the subjects of amenorrhœa, partial or complete. The system can barely sustain itself, let alone have anything to spare for a "surplus wave of nutrition." The mother asks—"Can not you bring on her courses?" It is a very natural question; but how about our answer? "The system when able will set them up" is a truthful, if not quite satisfactory reply. We have no means, with which I am acquainted, by which we can start a uterine flux. Certain drugs—as savine, senega, and the true unicorn—are credited with a direct action upon the reproductive organs. But how about the precise facts? Steel will help to make blood, and so aid in bringing about the menstrual flow. But does it not do this indirectly, rather than directly? In the days of my youth, a certain pill of my father's enjoyed a great local reputation in amenorrhœa. It consisted of iron, savine oil, black pepper, and aloes and myrrh pill. It was an admirable com-

bination. The aloes had a stimulant effect upon the vascular supply of the pelvic organs, while the savine acted upon the uterus. That the desired result was frequently attained by persistence with the pill, is credible enough.

But how are we to determine how far abortion is or may be set up by such measures? It is claimed for the aletris, or unicorn, that it is a uterine stimulant, which wards off abortion rather than tends to produce it. "Facts are stubborn things," says the old adage. But how about the facts? The constituents of the above-mentioned pill are certainly oxytotic, and used to procure abortion. It seems to me that amongst the cures wrought by that pill, a certain proportion of them were in reality abortions, of which nothing was said by the patient. It certainly presents a combination of agents eminently well calculated to produce such a result. In dealing with these remedies for amenorrhœa, we can not lose sight of the mental element involved in their exhibition, if attended by the desired result. We must remember, imitating the language of Hughlings Jackson, that vascular congestion of the uterus and its appendages, in which lies hidden much erectile tissue, is the anatomical substratum of lust. Sensations founded on physical conditions are persistent and recurrent. Local conditions of the reproductive organs are accompanied by corresponding thoughts linked with the feelings experienced. In all probability the viscera are represented in the posterior lobes of the brain—just as we find the limbs have their cerebral area, and the special senses their own localities. More solid facts than the acute speculations of the phrenologist point in this direction. And emmenagogues, while exciting the menstrual flux, probably have a tendency to excite sexual thoughts, which in ill-regulated minds may flood the brain with lewd images. This is an aspect of the subject which ought, in some cases, to induce us to hold our hand when asked to prescribe for a girl with loss or non-appearance of the menses. If there be any mental deficiency, any lack of will, it may be well to decline; just as much as in precocity. It is a notorious fact that female idiots are given to self-pollution in the most determined manner, as superintendents of asylums for imbeciles well know. Where the lower centres are not well controlled by the higher centres, it is scarcely desirable to stimulate those lower centres into greater activity.

Then there comes the matter of cessation of the menses, after being fully and completely established. This is not at all an uncommon occurrence. The arrest may be acute, as by exposure to cold during the flux. Here warm baths may restore it; but commonly our efforts are directed to securing it at the next period of its appearance. If there be no acute disturbance of the system, then warm baths, sitting over a vessel of hot water, or the application of hot cloths to the vulva, may be sufficient. In other cases it may be necessary to give the pill described above, or some chalybeate, especially the ammonio-

citrate of iron, which bears the reputation of being the most potent of all the preparations of iron, as an emmenagogue. (I can remember my father once taking me to task for prescribing this form of chalybeate to a spinster recovering from an acute illness, as being undesirable for her.)

When amenorrhœa is found with impairment of the general health, then its treatment rests upon improvement of the systemic condition. As soon as the organism can afford a "surplus wave of nutrition," it will probably set up the flux once more.

Sir James Simpson tried certain little stem pessaries of copper and iron, to set up and keep up a certain electric or galvanic action; but obviously without satisfactory results, as they are no longer heard of in gynæcological practice. Electric currents may be applied to the uterus, as to any other organ; but on this matter I have no experience to offer to the reader.

Amenorrhœa is occasionally found in plethoric females, and here chalybeates and hæmatics are clearly contra-indicated. Indeed, local depletion by leeches placed to the vulvæ is found the best line of attack. The success of such plan will depend very much as to how far it becomes possible to calculate the period of the flux—if it was existent. This can often be done with an intelligent patient. A brisk purgative, to lower the tension in the vascular system, might appropriately precede the application of the leeches.

This bird's-eye sketch of the relations of amenorrhœa enables some readers to see their way, when sometimes the path is obstructed or hidden from sight. Indiscriminate administration of emmenagogues is to be deprecated in many instances, as calculated to do more harm than good. Each case must be treated according to its own indications and exigencies. And these vary materially in different cases. There is no doubt that the medical man is often an innocent, but, nevertheless, undoubtedly active participator in a little scheme of abortion; the abortifacient action of emmenagogues being a well-recognized fact.

306. PERMANGANATE of Potassium in Amenorrhœa, &c.
—The action of the permanganate of potassium upon the menstrual function, though apparently well substantiated by numerous observers, is difficult to understand, unless the results attributed to this substance, are really due to the binoxide of manganese into which it decomposes, as it is so unstable a compound that contact with organic matter at once reduces it to the binoxide of manganese and potassa; a result which must occur as soon as the permanganate reaches the stomach. Speaking of the internal use of this substance, and referring to this point, Wood says (*Therapeutics, Materia Medica and Toxicology*, page 632,) "As it is evident that, even if many grains were taken into the stomach, immediate decomposition of them would there occur, the absurdity of this use of the drug needs only to be pointed out."

According to Barthlow, "The theoretical advantages of the internal administration of this drug are attributable to the nascent oxygen, or rather ozone, which is the result of the decomposition." It is probable that the general stimulating effect ascribed to this drug, follows the decomposition and is due to the binoxide, the direct effect from the permanganate being *nil*, for Pereira, quoting from Hufeland's Journal, speaking of the binoxide, says that Kapp, who first employed it internally, "regards it as a permanent stimulant, and says it promotes the appetite and digestion. Vogt (*Pharmako-dynamik*) places it among the tonics, and considers it to be intermediate between iron and lead, but his views are altogether theoretical, as he does not seem to have employed it."

It was for this power as a general stimulant that Dr. Ringer recommends the permanganate in cases of amenorrhœa due to torpor, anæmia, or deficient activity of the menstrual apparatus. This view of its action is not, however, held by Dr. Billington, who says, (*N. Y. Med. Jour.*) he "agreed with those who did not believe the beneficial effect was due to its improving the blood and anæmic state; some patients so benefited were not anæmic, but, on the contrary, were plethoric."

It is probable that the action of the drug is specific or special under certain conditions of the system or of the generative organs, the indications for which have not been definitely made out.

According to Drs. Ringer and Murrell it is indicated in amenorrhœa due to torpor, anæmia, or deficient activity of the menstrual apparatus.

Dr. Billington has used it with success in amenorrhœa following exposure to rain. The flow scanty and almost colorless, accompanied with headache, coldness of the extremities, pallor, etc. Also, in chlorotic and feeble conditions.

Dr. Berry recommends it in amenorrhœa of strumous subjects.

Dr. Fordyce Barker gives the following cases as suitable for this drug.

"*First.*—Young ladies between the ages of fourteen and nineteen, who come from the country 'to finish their education.' Home-sickness, entire change of their habits of life and associations, over-tax of their brain power from their own or their teachers' ambition to accomplish more in a given time than they ought to attempt, not infrequently lead to an arrest of menstruation.

"*Second.*—Ladies, both young and married, who suffer severely from seasickness, that have left some European port within a few days of the menstrual period. With such, amenorrhœa, of longer or shorter duration, is almost sure to follow.

"*Third.*—Ladies between thirty and forty, generally married, some of whom have born children, who rapidly begin to gain flesh, grow stout, while at the same time menstruation decreases in both duration and quantity, until at last it is only a mere pretense. This is generally attended with annoying nerve-disturbances, pelvic weight, sometimes

hæmorrhoids, and often mental depression from the apprehension of growing old prematurely."

All of which indications point to an anæmic or torpid condition.

As this drug possesses a more or less irritating quality, it often gives rise to so much gastric disturbance to prevent the continuance of its administration, and is contra-indicated in cases of inflammation of the stomach, while it is probable that the binoxide of manganese will accomplish all that is claimed for the permanganate.

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307. UTERINE Hæmorrhage, *Hydrastis Canadensis* in Treatment of. M. A. MENDES DE LEON in the *Arch. f. Gynak. (N. Y. Med. Jour.)* reports his experience in the treatment of about forty women with *hydrastis canadensis*. The remedy seems to have afforded the best results in cases of menorrhagia accompanied with severe dysmenorrhœa as a consequence of determination of blood to the generative organs; in catarrhal inflammation of the body and neck of the uterus; in chronic pelvic cellulitis with severe abdominal pains at the periods; in prolonged and painful menstruation connected with displacements, especially retroflexion and retroversion; and in hæmorrhage at the menopause. Instances are given of each of these five sorts of cases. In almost all of them the drug diminished the bleeding, and generally it overcame unnatural frequency of menstruation. The author observed no untoward effects beyond slight digestive derangements, except in two cases; on the other hand, the appetite was improved. In the two exceptional cases, nervous symptoms made their appearance, the pulse became very weak and frequent, the patients were depressed and had hallucinations, and one of them suffered with transitory delirium and loss of consciousness. The drug was usually given for fourteen days before a menstrual period, in doses of from fifteen to twenty drops (preparation not specified) four times a day; in a few cases it was given during the whole intermenstrual period. Like Schatz, the author attributes the efficacy of *hydrastis* not so much to any action of the muscular tissue of the uterus as to its exciting vascular contraction and consequent diminution of pelvic congestion.

308. UTERINE Flexions, The Treatment of DR. VIRGIL O. HARDON in the *Atlanta Med. and Surg. Jour.*—In a paper read before the Atlanta Society of Medicine, October 20, 1885, I gave a description of a mechanical device which was offered as a substitute for pessaries in the treatment of uterine displacements. It is proposed in this paper to elaborate in greater detail the principles upon which that method is based, and the manner of its application to the treatment of flexions, to which class of displacements it is especially applicable.

It is a matter of common observation that cases are now and then seen in which a marked flexion of the womb persists for a long time

without producing any symptoms. In such cases the organ is found high up in the pelvis, almost beyond the reach of the examining finger and the flexion is usually forward. I have never seen this condition in any other than nulliparous women in whom the uterine ligaments and the vaginal walls have retained their virgin firmness and tone. In such cases there is no tenderness or enlargement of the organ, no interference with the functions of the bladder, and no pain, except perhaps a tendency to dysmenorrhœa. If flexion of the womb may persist for years without producing any symptoms, this fact would seem to demonstrate that it does not constitute a disease *per se*, and that of itself is incapable of producing the symptoms usually attributed to it.

But, on the other hand, the majority of cases of uterine flexion which are brought to the notice of the physician present a striking contrast to the foregoing picture and are accompanied by a group of painful symptoms which demand active treatment for their relief. Pain in the back, difficulty of locomotion, sense of fullness in the pelvis, dragging sensations in the loins, vesical tenesmus, frequent or painful micturition, leucorrhœa, dysmenorrhœa, menorrhagia and metrorrhagia are the principal features of such cases. Vaginal examination shows the womb to be low down in the pelvis, tender to the touch, its walls thickened so that the whole organ is enlarged, though usually of normal depth, and its endo-cervical mucous membrane in a state of chronic inflammation. This condition is most commonly seen in women who have borne children, and in such cases there will, as a rule, be found associated with it some accident of parturition, such as laceration of the cervix, rupture of the perinæum, or injury to the vesico-vaginal or recto-vaginal septum. In those less frequent cases in which this condition presents itself in a nulliparous woman, there usually exists a stenosis of the cervical canal, a uterine polypus or a fibroid tumor.

There are found, then, two groups of cases of uterine flexion differing essentially with each other as regards clinical history. The one presents a variety of morbid symptoms of such severity that the patient is a decided invalid and seeks medical aid. The other presents an entire absence of symptoms, and the condition is brought to the notice of the physician only by accident. What factor determines this marked difference? The study of this question cannot fail to throw light upon the proper treatment of uterine flexions.

The symptoms which are characteristic of the first group of cases, and which form a *tout ensemble* which every practitioner will at once recognize from his own clinical experience, are attributable to three causes:

1. Traction upon the uterine supports.
2. Obstruction of the uterine circulation.
3. Traction upon the bladder.

In the first class are found pain in the back, dragging sensations in

the loins, difficulty of locomotion; in the second, leucorrhœa, dysmenorrhœa, menorrhagia, metrorrhagia, sense of fullness in the pelvis; and in the third, vesical tenesmus and frequent and painful micturition. I shall endeavor to show that these three causative conditions have their origin in a sinking down of the womb below its normal position in the pelvis, and are unconnected with flexion of that organ, and that the lack of morbid symptoms in the second group of cases is explained by the fact that the uterus remains at its normal elevation.

1. *Traction upon the uterine supports.*—The manner in which the womb is supported in the pelvis has been clearly demonstrated by Savage in his admirable investigations of the anatomy of the female pelvic organs. He found by drawing down the womb with a vulsellum in the axis in which prolapse occurs, that tension was first exerted upon the utero-sacral ligaments. When, by the forcible stretching of these ligaments, the womb had descended about an inch in the pelvis, "some retaining agent, other than the broad ligaments, still prevented its arrival at this last stage (complete prolapse). The obstruction was found to be due to the sub-peritoneal pelvic cellular tissue, particularly where it surrounds and accompanies the uterine blood-vessels." It is only when this tissue is divided and the womb is drawn half through the vulva that the broad and round ligaments are put on the stretch. As long, therefore, as the womb remains at its normal elevation, it is supported principally by the utero-sacral ligaments and that portion of the pelvic cellular tissue which surrounds and accompanies the uterine blood-vessels.

The utero-sacral ligaments form a portion of the diaphragm of cellular tissue which, radiating horizontally in all directions from its uterine attachment, in a plane extending from the middle of the posterior surface of the pubic bone to the junction of the third and fourth sacral bones, forms the roof of the pelvis. The attachment of this diaphragm to the womb on all sides takes place at a point corresponding to the line of union of the cervical with the corporeal portion of the organ, or about opposite the internal os. Through this diaphragm the cervix projects downward into the vagina and the body upward into the abdominal cavity, each portion being virtually free from other attachment, since the broad and round ligaments are so lax that they are not put upon the stretch as long as the womb remains entirely within the pelvis. The womb is slung, as it were, upon a universal pivot, and therefore as long as the position of the point of support is unaltered, its axis may vary greatly in direction without producing any traction. But it is obvious that if, from any cause, the normal equilibrium between the uterine supports and the weight to be supported be destroyed, so that the womb sinks below its normal position, traction upon the utero-sacral ligaments and the pelvic cellular tissue will exist in exact proportion to the distance that the womb descends in the pelvis.

2. *Obstruction of the uterine circulation.*—The womb receives its supply of blood through two arteries, the uterine and the ovarian. The uterine artery, a branch of the internal iliac, passes downward into the pelvis between the two layers of the broad ligament close to its iliac attachment. Upon reaching a point a little below the level of the os uteri, it curves inward and upward and comes into contact with the uterus just above the uterine insertion of the vagina. It then passes upward along the lateral border of the uterus, between the two layers of the broad ligament, giving off numerous horizontal branches which enter the womb at right angles. Upon reaching the superior angle of the uterus it anastomoses freely with the ovarian artery. The ovarian artery, the analogue of the spermatic artery in the male, is given off by the aorta just below the origin of the renal arteries. Passing downward to the pelvis it supplies the ovary. But numerous large branches ramify in the upper portion of the broad ligament and anastomose freely with the uterine artery at the upper angle of the uterus. Thus the womb is supplied with blood from above and below, the two sources of supply being supplementary to each other, as is proven by the fact that when either artery is abnormally small, as is not infrequently the case, the other is correspondingly enlarged. The venous arrangement is similar to the arterial. The blood passes from the uterus toward the heart by the uterine vein at about the level of the middle of the cervix and by the ovarian vein at the upper angle of the womb. These two veins are connected by a venous sinus, continuous with both, which passes upward along the lateral border of the uterus between the folds of the broad ligament, receiving at short intervals horizontal branches from the womb, and which is entirely devoid of valves. This sinus communicates with that of the opposite side by an intricate venous plexus within the uterine walls, extending without interruption from one side to the other, and from the os to the fundus.

Since the uterine artery and the uterine vein follow the lateral border of the womb throughout its length and are closely bound to it by connective tissue, it is easy to see that any considerable flexion of the organ at any point will produce a sharp flexure in these vessels at that point and a diminution of their calibre. But it is difficult to understand how such a constriction can interfere in any degree with the circulation of blood in the womb, since both artery and vein give off lateral branches throughout their course, which render every horizontal segment of the womb independent of every other portion as respects its circulation. The circulation of the portion above such a constriction will still be carried on through the ovarian artery and vein, and that of the portion below the constriction through the uterine artery and vein, and each will be as perfect as though no flexion existed. At a late meeting of the London Obstetrical Society, Dr. John Williams described the following experiment to test the influence of flexions in causing congestions. He stitched the fundus of the uterus closely to

the cervix, thus securing the acutest flexion possible, and then injected a colored fluid into one of the veins of the broad ligament. Immediately the veins of the other side of the uterus became distended with the injection. On making a section, the whole of the veins in the uterus were found injected. This proves what the arrangement of the vessels has already shown, that the acutest flexion does not interfere with the circulation of blood in the uterus.

A logical conclusion from these anatomical facts is that no obstruction can take place in the circulation of any part of the uterus from flexion of the organ, unless there be at the same time a constriction of the uterine or the ovarian blood-vessels at some point outside of the womb, that is, within the cellular tissue of the broad ligament. But if these two conditions co-exist, there will be a circulatory interference in the portion of the womb between the point of flexion and the point of constriction in the cellular tissue. No argument is needed to prove that traction upon an elastic tissue containing a blood-vessel will produce constriction of that vessel. We have seen that no such traction upon the cellular tissue exists as long as the womb remains at its normal elevation. But when it has descended to the distance of an inch, and not before, traction is exerted upon the pelvic cellular tissue, "particularly where it surrounds and accompanies the uterine blood-vessels." Hence in a case of flexion, accompanied by prolapse, we have the two factors necessary for interference with uterine circulation, while in flexion, unaccompanied by prolapse, one of the essential factors is absent.

3. *Traction upon the bladder.*—It is commonly stated in the text-books that in flexions of the womb, pressure of the fundus upon the bladder produces irritation of that viscus. Of course this statement can apply only to ante flexion, since in retro flexion such pressure would be an anatomical impossibility. If pressure upon the bladder could produce vesical irritation, no woman would be free from this symptom. The normal condition of the womb is a state of ante flexion, so that the organ rests on the bladder. In addition to this, the bladder is always subjected to a varying amount of pressure from the weight of the superimposed intestines which rest upon it and follow it down as it contracts during micturition. Hence no bladder is ever free from pressure, and the extra weight of an ante flexed womb, which normally weighs only one and a half ounces, cannot produce any appreciable effect. The sensation which leads to a desire for micturition originates, according to Michael Foster, in the circular muscular fibres within the bladder, especially the portion situated just posterior to the vesical termination of the urethra, sometimes spoken of as the vesical sphincter. As the bladder becomes distended by the accumulation of urine, such distention, when it has reached a certain point, is resisted by these circular muscular fibres. This muscular resistance, together with the escape perhaps of a few drops of urine into the urethra, gives rise to a desire to micturate, through a

nervous mechanism which it is not necessary to describe here. Forcible mechanical expansion from any other cause will give rise to the same sensations and to spasmodic contractions of the bladder. If the bladder be empty, such spasmodic contractions will constitute vesical tenesmus, and if frequently repeated will soon become painful.

The relation of the uterus to the bladder is one of contact only, there being no cellular connection between the two viscera. Hence as long as the point of uterine support is undisturbed, flexion of the organ can produce no traction upon the bladder. But the vagina is closely connected to the bladder from its uterine insertion to the commencement of the urethra by a layer of cellular tissue, constituting with the walls of the two cavities the vesico-vaginal septum. Any descent of the womb is accompanied by a corresponding descent of this septum. Savage declares it to be a rule without exception that the bladder, notwithstanding the yielding character of its connection with the vagina, invariably follows the uterine cervix, whatever be the amount of downward displacement. At the beginning of a uterine prolapse, it is obvious that the portion of the bladder dragged downward will be the point of its highest attachment to the vaginal wall, which is at the uterine insertion of the vagina. But as the prolapse increases, more and more of the bladder will become involved, until at length the traction will come to be exerted upon the portion constituting the internal sphincter. Since the anterior wall of the bladder is closely attached to the os pubis, traction upon the posterior wall will produce a forcible dilatation of the circular muscular fibres with its resulting sensation of a desire for micturition. As the degree of prolapse increases beyond this point, the amount of traction upon the bladder and of vesical disturbance will necessarily increase *pari passu*.

I have endeavored to demonstrate from an anatomical point of view that the symptoms accompanying those cases of uterine flexion which come under the notice of the physician are due to the sinking down of the womb in the pelvis, and not to the flexion. But such anatomical deductions are valueless unless confirmed by clinical observation. To complete the argument, it is necessary to show that when the womb is at its normal elevation in the pelvis such symptoms do not appear, and that when they are present the womb is found low down in the pelvis, and the symptoms are relieved by raising the organ to its normal elevation. A close and careful study of this subject, extending over several years of active practice, has convinced me of the truth of both these propositions. Since my attention has been directed to the subject, I have constantly been on the lookout for a case of flexion which presented the characteristic group of symptoms, but in which the womb had remained at its normal elevation. Thus far I have failed to find one such case. I have incidentally met with cases in which there was flexion with the womb high up in the pelvis. But in all such cases there were no subjective

symptoms which would indicate its existence. Whenever I have found the group of symptoms which depend upon traction upon the uterine supports, obstruction of uterine circulation and interference with the functions of the bladder, I have always found the womb low down in the pelvis, and have also found that raising the organ to its normal elevation caused an abatement of such symptoms.

In all works upon gynæcology there is to be found a more or less incomplete recognition of these facts. But nowhere, except in a very recent article by E. C. Dudley, do their full significance and their relation to the treatment of uterine flexions seem to be appreciated. It is interesting to note that the methods of treatment of flexions which have yielded the best results have been such as accord perfectly with this theory. Pessaries which raise the womb as a whole, such as those of Hodge, Hewitt and Gehrung, have been found more satisfactory than any others. It is also a significant fact that the methods prescribed for the treatment of ante flexion, retroflexion and prolapse are frequently quite identical. Mechanical conditions so diverse in themselves assuredly cannot be successfully treated by similar methods unless they possess some element in common. Clinical experience has thus led to the adoption of methods of treatment whose *rationale* has escaped recognition. Yet, although in a measure satisfactory in some cases, those methods have been so influenced by the erroneous theories upon which they are based that they have fallen far short of the degree of success that they might otherwise have attained. Consequently, they have never met with more than a half-hearted acceptance with the majority of the profession. Forty years ago, Meigs declared that "pessaries are necessary evils." Twenty-five years later, Sims, with unconscious plagiarism, reiterated precisely the same words. The practitioner of to-day endorses their dictum. The explanation of this seeming paradox is simple. The benefit derived from a pessary is exactly in proportion to its ability to raise the womb as a whole. The harm wrought by it is in proportion to the power expended in the endeavor to correct a flexion.

If the morbid symptoms usually attributed to flexion are due to prolapse of the womb, an important question relates to the causation of that prolapse. An uncomplicated case of flexion is rarely seen in practice. Not because such cases do not exist, but because they require no treatment. The uncomplicated cases are seen only by accident; the complicated ones apply for relief. In every case of flexion, accompanied by marked symptoms, some complication will be found to exist. It may be a morbid growth in the womb, a stenosis of the cervical canal, a laceration of the cervix, a rupture of the perinæum or a vaginal fistula. Any pathological condition which adds to the weight of the womb by increasing the amount of its solid tissues, or by inducing congestion, will cause it to settle down to a greater or less degree below its normal level. To consider all the causes which may produce this result would be to write a treatise on

gynæcology, since nearly all morbid conditions of the pelvic viscera will give rise to some degree of increase of the weight of the womb. In nulliparous women the most frequent complication is stenosis of the cervical canal, which, by giving rise to obstructive dysmenorrhœa, induces a chronic congestion. In fertile women the most frequent complication is laceration of the cervix uteri, which increases the weight of the womb by interfering with the proper involution of the organ after labor.

It follows that in the treatment of uterine flexions there are two indications to be met: first, to raise the womb to its normal elevation; second, to remove the cause of increased weight. The elevation of the womb is to be regarded as the first step in the treatment, because there is present, as a rule, a greater or less degree of the so-called chronic pelvic cellulitis, whose removal is a necessary prerequisite to any safe and efficient operative procedure. Whatever view may be taken of the pathology of this condition, clinical experience has shown that it is not safe to divide or dilate an obstructed cervical canal, repair a lacerated cervix or even to introduce a sound to the fundus as long as it exists. The quickest and most efficient method for its removal, in common with the other symptoms of prolapse, is to raise the womb to its normal level in the pelvis and keep it there by appropriate mechanical support.

The normal position of the womb has been the subject of much discussion, and has never been satisfactorily determined, since scarcely any two authorities exactly agree upon this point. The womb is, within certain limits, a movable organ, since its position varies in different subjects and at different times in the same subject. It floats in the pelvis like a ship moored to a pier. As a ship so moored rises and falls with the tide and sways to and fro with the motion of the waves, so the womb rises and falls with the respiratory movements of the diaphragm and oscillates laterally and antero-posteriorly with the changes in the position of the body and the degree of distention of the bladder and rectum. Hence it is impossible to exactly define its normal position. But in every patient suffering with symptoms of prolapse, if the womb be not bound down by adhesions, it will be found that there is a certain point of elevation in the pelvis, to which if the womb be raised the symptoms are relieved. When this point has been found, the normal position of the womb has been determined for that individual case. To maintain this position is the proper function of mechanical support.

The question of how to support the womb by mechanical means is as old as the history of medicine. From the pomegranate, which Hippocrates inserted into the vagina for this purpose, down to the latest invention of the modern gynæcologist, the medical mind seems to have run riot in the multiplication of pessaries. Their almost infinite variety is the best evidence of their failure to accomplish the purpose for which they are intended. Thomas, after having invented

thirteen different pessaries for the cure of ante flexion and anteversion, says: "Were I asked at the present moment whether I believe that in the aggregate they have accomplished more good or evil, I should be forced to give a doubtful reply." The objections to pessaries in the treatment of flexions are manifold, and are universally recognized even by their most ardent advocates. It would therefore be superfluous to recount them here. The method which I recommended in my previous paper, and to which I have given the name of the "supporting tampon," is free from these objections. Its use is not debarred by the presence of so-called chronic pelvic cellulitis, nor by any amount of pain or tenderness in the roof of the pelvis. It is therefore applicable where pessaries would be entirely out of the question, and, even though applied by unskillful hands, is incapable of doing harm. It is indicated in any case in which the symptoms show the existence of traction upon the uterine supports, obstruction of uterine circulation or interference with the functions of the bladder. The relief which it gives to such symptoms is immediate, and places the patient in a very short time in a suitable condition for any operative procedure which may be necessary for the removal of the cause of the prolapse.

In order to properly apply the supporting tampon, it is necessary to first ascertain the position in the pelvis at which the womb is most free from pain. This may be done by raising the womb upon the index finger in the vagina while the patient stands. If the womb be bound down by adhesions this cannot be accomplished. But fortunately adhesions are rarely found. When the womb has been gently raised about as far as the finger can reach and held at that point for a short time, the patient will find that her pain and discomfort are greatly diminished. She must then be placed upon a table in Sims' position and Sims' speculum introduced. A pledget of cotton saturated with glycerine must be placed in the posterior *cul de sac*, another in the anterior fornix and a third and fourth on either side, so as to completely encircle the cervix. The size of these pledgets must be such as to fill the space between the cervix and the vaginal wall on all sides with a moderate degree of distention. The cervix will thus be held with a tolerable degree of firmness in its normal axis. A larger pledget of cotton, also wet with glycerine, must then be placed immediately below the cervix, so that it will lie between it and the vaginal promontory. The size of this pledget must be such that when in position it will raise the womb to the point where it has been found to be most free from pain and, resting upon the vaginal promontory, will form a platform of support for the organ. The patient may then resume the standing position, and if the tampon be properly applied she will be sensible of immediate relief from its application. A certain amount of experience is necessary in order to insert the tampon in such a manner that it will remain where it is placed and hold the womb in the desired position. If it be packed too firmly

around the cervix, the natural mobility of the womb will be abolished and the jar of every motion will be felt in the pelvis by the patient. On the other hand, if too loosely applied, it will be found in a few hours to have fallen down into the lower part of the vagina and all its usefulness will be gone. Experience alone will enable the operator to avoid these two extremes.

In my former article upon this subject, I stated that "a tampon of cotton should never be allowed to remain in the vagina for more than twenty-four hours" on account of its interference with the daily use of the vaginal douche of hot water which I considered an indispensable adjunct to the treatment. Further experience has convinced me that I overrated the value of the daily douche, and that patients improve with equal rapidity under a less frequent use of it. I was led to experiment in this direction on account of the objection made by patients to the trouble and expense incident to daily treatment. I have found that if properly applied the tampon will, as a rule, retain its position for forty-eight hours, and the disinfectant properties of the glycerine will prevent its becoming foul in that time. It should then be removed, a hot vaginal injection used and a new tampon inserted. Under this treatment all tenderness and engorgement in the cellular tissue will rapidly subside, the womb will return to its normal weight and size, endo-cervicitis and leucorrhœa will cease, menstruation will become normal, pain in the back, loins and pelvis will disappear. The rapidity with which these changes will take place will be of the nature of a revelation to one who uses the supporting tampon for the first time.

The second indication in the treatment, the removal of the cause of increased weight of the womb, it would be superfluous to notice at length, since it involves processes whose description is found in every text-book of gynecology. Suffice it to say that whatever may be the complicating pathological condition whose presence is the cause of increased weight of the uterus, it must be remedied by appropriate therapeutic or operative measures. The beneficial results obtained by the use of the supporting tampon will thus be rendered permanent. If the use of the tampon be discontinued without fulfilling this second indication, it will be only a question of time when the original condition will return, and the patient will be as badly off as at the beginning of the treatment. In other words, the supporting tampon is a palliative and preparatory measure merely. To expect more of it would show a lack of appreciation of the principles involved in its use.

309. CANCERS of Uterus when too late for Operative Procedure, Treatment of.—MME. GACHES SARRANTE, M. D., in the *Nouvelles Archives Gynécologie*, recommends, first, the sloughs should be thoroughly washed away with some antiseptic fluid, such as "liqueur de Van Swieten," diluted with three times its bulk of tepid water. Two

or three quarts should be used with a fountain syringe. After this any loose sloughs are picked away, after exposing the tumor with a speculum, and disks of absorbent cotton soaked in a 4 per cent. solution of chloral hydrate, and dusted over with iodoform, are spread over the tumor, or in the cavity if one has been formed. This treatment is applied three times a week. After eight months trial the following satisfactory results were obtained :

1. Locally: the surface, which is formed at the beginning with putrid secretions and gangrenous tissue which it was impossible to detach, becomes clean after a few applications of iodoform, and has the appearance of an ordinary granulating wound, rosy colored and clean. It is more and more favorably modified as the treatment progresses.

2. From the beginning, we have a complete cessation of pain, opiates being no longer necessary.

3. The treatment absolutely arrests all hæmorrhages. Watery discharges, it is true, continue, but diminish notably, and become thinner and less colored.

4. Finally, the general health becomes better, strength and appetite return, and the cachectic appearance disappears.

What effect this treatment has on the prolongation of life, cannot as yet be ascertained, but it, at least, allows these unfortunate persons to pass their remaining days in comfort, and they are no longer an object of disgust to those who surround them.

310. ENDOMETRITIS—DR. ROBERT BELL *in the British Med. Journal*.—Two reasons have influenced me in my selection of endometritis as the subject of this paper: 1, because this morbid condition is so frequently met with; and 2, because its existence is so frequently overlooked by the general practitioner. I do not, of course wish it to be inferred, when I speak of endometritis, that I believe that the endometrium, in any great number of cases, is affected alone—that is, without the parenchyma of the uterus being likewise involved; but, as it is principally through the lining membrane of the organ that we are able to reach its more remote structure when treatment is being employed, and as the indications of restored health are reflected through the canal, the health of this membrane must always be viewed as indicative of the health of the uterus as a whole. I have just observed that this diseased condition of the uterine canal is often overlooked; but I go farther, and would point out that not only is it passed by unrecognized, but one of the manifestations of the disorder, and one which of itself is of little account, is accepted as *the* disease, and, even when this is detected, it is misnamed. I refer to the so-called ulceration of the womb, which, so far from being an ulcer, on the contrary, is a hypertrophic condition of the cervix. This partakes no more of the nature of an ulcer than an ectropion of the eyelid does. Papillary and follicular ulceration of the cervix are terms in

our nomenclature which never should have existed. Certainly the strawberry appearance of the cervix, which frequently, but by no means constantly, is a part of endometritis, is a most prominent symptom; and to observe its gradual disappearance is a most welcome sight; but to treat it *per se* by local applications, in the expectation that the patient will thus have her health restored, will surely end in disappointment. What we have been long in the habit of calling an ulcer of the womb, in common parlance, is, we now know, an ectropion of the cervical membrane due to hyperplasia, which results in the mucous membrane being crowded outwards; and this hyperplasia is due to endocervicitis.

First, its etiology must have careful attention, as this is very varied. The causes of endometritis are frequently at the onset apparently very trivial, so much so, that it is not a matter of surprise that they are often overlooked; and yet these may advance so insidiously, that quite unexpectedly they come to be mighty factors in the production of this most painful and trying disorder. We cannot be surprised, however, that a woman should suffer intensely and long before applying for relief, when the uterus is the seat of disease. It must always be a great effort on her part to submit to examination, and to a course of treatment. Symptoms are thus apt to be pretty well advanced, and, therefore, more difficult to remove than otherwise they would be, before they come under observation. As each menstrual period is accompanied by a physiological hyperæmia of the uterus, which in the healthy woman passes off with the emptying of the surcharged vessels, it will not be difficult to comprehend how, if any inflammatory condition be present as well, though it may not be sufficiently marked to indicate itself by any decided symptoms during the intermenstrual repose, this will be so aggravated at the period of menstrual activity as to make its presence distinctly evident. The tendency, then, will be for the hyperæmic condition to persist beyond the normal number of days, and possibly induce menorrhagia, which will, in its turn, give relief to the symptoms so far; but in all probability this will again be succeeded by a catarrhal discharge, which will, in a minor degree, act as a depleting agent, though it will, by its very presence, perpetuate the disease. It behoves us, therefore, to employ means at once with a view of checking this incipient form of the disorder, such as rest and general tonic treatment, with, perhaps, a moderate amount of shampooing. At the same time, special attention must be directed to the bowels, a duty which is too often neglected, much to the hurt of the patient; otherwise, if the disease be permitted to advance, it will soon manifest its presence by unmistakable symptoms. I have frequently met with cases similar to that which I have just depicted, in girls who have either been indiscreet during the menstrual flow, going into baths, for instance, or getting their feet wet, or who have suffered some mental shock, by which means the discharge has been checked; and I feel sure many here must

have had similar experiences. Then we must not overlook the fact, that an atonic condition of the general system is a potent predisposing cause to endometritis, which condition, we know, may arise from a number of circumstances, but which would be beyond the scope of this paper to detail. If we view the anatomical relation of the uterus to the neighboring parts, its dependent position in the pelvis, its blood-supply, etc., it is not difficult to realize how readily a passive congestion can obtain within its structure, and how this, being aggravated at each molimen, will sooner or later assume a chronic condition.

Constipation is another predisposing cause, and, I must insist, a much more frequent and energetic factor in inducing endometritis, than one is fain to imagine. It acts in two ways ; first, by interfering with the circulation in the pelvis ; and we must remember that it is always the circulation in the veins that suffers first when pressure exerts an effect on the vascular system, the elastic walls of the arteries rendering them, to a large extent, free from much risk of compression. The venous capillaries, therefore, become engorged, and œdema results. Now, an accumulation in the rectum and lower reaches of the colon interferes very considerably with the vascular health of the pelvic viscera. In the second place, we cannot have a sluggish action of the colon, and, therefore, a loaded colon, without some portion of the liquid fecal matter being reabsorbed into the blood, in this way developing within the vital fluid a poison, modified certainly, but still a blood-poison, which exerts upon the red corpuscles a most pernicious effect ; and, in my opinion, actually reduces their vitality so far as to destroy large numbers of them, and thus to tend very much to bring about anæmia. Nay, I will go further, if I may be pardoned a slight digression, and I would suggest that, in a large majority of cases, constipation is the starting-point of anæmia. Moreover, I have detected, in not a few instances, an accumulation of hardened scybala in the rectum, actually crowding the uterus out of position ; and, in more than one instance, have demonstrated that this was carried to such an extent as to produce a temporary retroflexion.

Vaginal leucorrhœa may produce so much irritation of the mucous membrane of this canal, as to give rise to not a little vaginitis, which may spread by continuity of tissue, and involve the cervix, and afterwards spread to the endometrium.

Displacements, but more especially flexions, are pregnant sources of endometritis, and generally of a most acute type. This is more especially the fact in traumatic cases. The reason is obvious ; for here we have the relation of the venous to the arterial flow suddenly altered. Some gynæcologists affirm that a bend in the uterus does not and cannot interfere with the uninterrupted circulation in the uterine tissue ; and therefore, cannot prove a factor in the production of endometritis. Two cases, however, at this moment are present to my mind, which, I think, demonstrate beyond a doubt the distinct

effects of sudden retroflexion. The accident in both cases happened to unmarried ladies, who, previously to the event, were entirely free from any uterine symptoms, so that the evidence is as distinct as it possibly can be, and, to my mind, most valuable. The first, Miss L., while walking on the footpath after dark, slipped and fell with a thud on her sacrum. The next morning, she called in her medical man, on account of a severe flooding which had come on. He plugged the vagina, and gave gallic acid, without producing the slightest effect on the hæmorrhage. A day or two afterwards, I forget exactly how long, he asked me to see her with him. The patient was very anæmic, and in great alarm, as also were her friends. On making a vaginal examination, the uterus was found to be acutely retroflexed, and very flabby, but not in the least degree tender to the touch. I therefore concluded that the flexion had been produced by the fall, and that the sudden venous congestion which resulted had terminated in the rupture of the walls of the vessels; and hence the hæmorrhage and absence of inflammatory symptoms. I therefore replaced the uterus, and kept it in position by means of a Hodge's pessary, with the almost immediate effect of arresting the hæmorrhage; and in a short time, with the exception of the weakness resulting from the loss of blood, the patient was in her usual health, and free from all inconvenience. She wore the pessary for some months, and has had no recurrence of the metrorrhagia since, nor has she had any uterine symptoms. The second case was that of a young lady (Miss R.), who fell from a height of several feet, and came down on her haunches. She was carried into the house, and suffered intense pain, which continued for several weeks, the discharge being excessive at each menstrual period for some time afterwards. It was fully a year after the accident when she came under my observation, and then she was very nervous and depressed. Vaginal examination disclosed retroflexion, with considerable hyperplasia, and acute sensitiveness of the fundus. I did not attempt at first to reduce the flexion, but took measures to support the fundus with tampons, and thus allay the inflammation as well. I thereafter replaced the fundus, and supported it by means of a pessary, with the result that all local symptoms disappeared. I should have mentioned that, during the whole of the time this patient was under treatment, endometritis existed, and this was accompanied by a muco-purulent discharge. This was treated *pari passu* by the method which I will afterwards describe.

I now come to speak of the most frequent cause of endometritis in the virgin. I was going to say, in the nullipara, but, for special reasons, I will not speak of married women at present. I refer to stenosis of the internal os. This stenosis is generally spasmodic, and in consequence of this, considerable dysmenorrhœa accompanies each menses. (I conclude that it is spasmodic, from the fact that the painful character of the period usually disappears when once the flow has been thoroughly established. Were it due to a distinct narrowing

of the cervical canal, or of either orifice of it, the pain would necessarily be prolonged during the whole period.) The physiological hyperæmia becomes, in process of time, prolonged beyond the continuation of the flow, in consequence of the irritation produced by the violent contractions which have accompanied the expulsion of the discharge through the constricted orifice. The inflamed condition of the canal is indicated, first, by the clotted character of the menstrual discharge, and, secondly, during the intermenstrual period, by a copious mucous, or, in more advanced cases, muco-purulent exudation; by backache, pain on a slight amount of fatigue, weight in the abdomen, ovarian neuræsthesia, lowness of spirits, etc.; and the uterus is exquisitely sensitive to touch. It may be remarked that I am not warranted in classing stenosis amongst the causes of endometritis, that this is purely an assumption on my part; but that, on the contrary, it is more likely to be a result than a cause. I think, however, gentlemen, if you inquire into the history of dysmenorrhœa, you will find that it rarely exists during the early life of a menstruating girl, and that it will not occur at all if the girl lead a natural, and not the artificial, life into which our young ladies are thrust. They make no difference whether catamenia be present or not, but pursue their wild career after pleasure, passing through an amount of physical fatigue in a heated atmosphere, and then exposing their heated bodies to draughts of cold air, in a way which would try the strongest frame, not to speak of the delicate organism of a woman. Along with this, they neglect the functions of the bowels, and, as a rule, set every hygienic law at defiance. Is it to be wondered at, then, that this routine of foolhardiness, as I have observed over and over again, results in stenosis? Whether this be concomitant with a persistent hyperæmic condition of the organ as well, I am not prepared to insist; but that it is followed by this condition, and, to say the least of it, aggravated by it, I have not the slightest doubt.

Overstraining the nervous energies at school is another predisposing cause of stenosis, and thus of endometritis, by the neglect of hygienic precautions which it engenders, and also by the actual wear and tear resulting therefrom. Irritability is the natural outcome of reduced tone, and a highly delicate organ like the uterus is sure to suffer. A woman, to be healthy, must lead a natural, useful, and moderately active life. She must not overstrain her natural powers, or indulge in a too luxurious mode of living. If we analyze the various classes of society, we will find that symptoms which point to endometritis are by far more prevalent in those women who lead the artificial existence in which the upper classes indulge.

A conical cervix is another potent cause of endometritis, and for the same reason that stenosis of the internal os induces it, namely, an obstruction to the menstrual flow. It is a well known fact that fluid will pass much less readily through an elongated narrow canal than it will do through a shorter tube of the same calibre. Now, the

smallest amount of irritation in the cervix—which irritation is most prone to exist when this portion of the canal is hypertrophied—will produce coagulation of the discharge, thus making the resistance still greater, and necessitating uterine contraction to accomplish expulsion. This repeated and continued effort of the uterus, in due time, produces congestion, and an inflammatory condition results.

With reference to the married woman, we will not unfrequently observe that this disease is induced by excess of sexual excitement and over-indulgence. How often are we compelled to attribute endometritis to this cause, on learning that it dates from the commencement of married life, and from the history of the patient, which she reluctantly gives.

But perhaps the most prolific cause of this affection is subinvolution of the uterus, following the delivery of either a premature or a full-grown foetus. This, however, most frequently occurs after a miscarriage, from the fact that much less care, as a rule, is exercised in these circumstances in securing a complete convalescence, before the woman is permitted to rise and resume her ordinary duties. On inquiry, in a large majority of cases, it will be ascertained that the patient dates the commencement of her illness from a miscarriage or a confinement. It therefore behoves us to be most exact with our instructions, and to ascertain for ourselves that these are carried out, so that complete convalescence may be ensured before the patient is permitted to resume the ordinary duties of life.

Attention has of late been, and very justly so, called to another most potent factor in the production of endometritis; moreover, it is one which renders the disease most persistent. I refer to laceration of the cervix. Now, if we inquire into these cases carefully, we will ascertain that, when a laceration occurs in the middle line, either anteriorly or posteriorly, it does not act so detrimentally as when the lesion is situated in the lateral aspect of the cervix. This leads me to conclude that it is not so much the fact of a laceration existing that is so baneful in its effects, as the position of the tear. Why should the effects of the injury be influenced by its location? it may be asked. And this seems not an unnatural query. Yet, if we look at the anatomy of the circulation in the cervix, it will not be difficult to account for the difference in the results. It has been accepted as an explanation of laceration producing endometritis, that the cicatrix formed in the fissure compresses the nerve-filament involved therein, thus producing and propagating a continuous nerve-irritation. Now, if this be correct, why does a laceration outside of the middle line exert a greater effect than that in the middle line itself? I, therefore, have excluded this view of the *casus morbi*, and attribute the consequences entirely to the effects of the lesion upon the circulation. The vessels are divided in their course, and this does not occur if the middle line be the seat of injury. The nutrition of the pendulous and semi-detached portion is interfered with in consequence of the incom-

plete vascular supply that results, and therefore its vitality becomes diminished, which renders it an irritant to the neighboring structure; and its continual presence gives rise to congestion, which persists till the injury is repaired or the weakened portion removed. I have repaired such cases with most complete and satisfactory results; but, in a small number of instances, I must confess, no relief followed the operation. But where trachelorrhaphy has failed, success has most surely followed amputation of the cervix in a line with the apex of the laceration; thus proving, I think, that it is the presence of the devitalized portions of the cervix which has produced and kept up the diseased condition of the uterus. This is still further placed beyond doubt by the fact that, the greater number of segments into which the cervix is divided, the greater amount of irritation is then produced.

So far I have gone briefly over the etiology of the disease under discussion; I naturally, therefore, come now to speak of its semeiology. What are the symptoms which would indicate the uterus as being the seat of disease, and that the disorder is endometritis? If a woman complain of depression of spirits, amounting in many instances to despair, and in not a few cases to suicidal mania, we naturally inquire as to the uterine functions; when it will be ascertained, if the disease be not far advanced, that there is excessive menstrual discharge, often clotted, preceded by a dull, heavy pain in the pelvis, which passes downwards into the limbs; backache, polyuria, etc. The nature of the woman is changed; from being an active, cheerful and energetic member of society, she has become lethargic and careless of her duties; she is fretful and ill-natured; her sleep is fitful and unrefreshing; there is copious catarrh, either muco-purulent or entirely composed of pus. The physiognomy is completely altered, a dejected and an anxious look having taken the place of the once lively and sprightly countenance; and she seems to have lost all interest in life. A common complaint is, that her back aches so much that it makes her feel as if she would fall to pieces. Vaginal examination by the finger discovers that the cervix is enlarged and spongy, and that the uterus also is hyperplastic and sensitive to touch. When the speculum is introduced, the vaginal portion is found to be eroded, and to present the usual characteristic strawberry appearance, and from the os exudes a purulent discharge. Bimanual examination makes it evident that the whole organ is considerably enlarged. If the sound be passed, it will produce exquisite pain, and its withdrawal will be accompanied and followed by more or less hæmorrhage. The ovaries will also be very sensitive to touch; and, if the disease be of long standing, the Fallopian tubes will be found to be thickened. Indeed, I am convinced that disease of the tubes in every instance is simply an outcome of endometritis, they having become involved through continuity of tissue. If we examine carefully the eroded surface, which presents itself to view through the speculum, it will be seen that it is composed

for the most part of the ectropic and denuded surface of the cervical mucous membrane; and the discharge which exudes from the os, and from this raw surface may, and frequently does, attain such acridity as to give rise, not only to vaginitis and condylomata, but to erosion of the vaginal mucous membrane also. If this has occurred, it will not be difficult to infer how much pain an examination must give to the patient. Reflex irritability of the bladder is almost invariably a concomitant of this disorder; and this fact must not be overlooked, as frequently the bladder-symptoms are laid great stress upon by the patient, thus often leading the practitioner to treat them as the disease, while the cause is overlooked. An irritable condition of the bowel is also frequently connected with endometritis, but it is superfluous to remark that this is only sympathetic.

Another most important symptom yet remains to be mentioned, and one which it is only natural to expect when the uterus is so sensitive, and that is dyspareunia. This is frequently of such prominence, as to be the incentive which impels the poor woman to seek advice and relief.

Having thus briefly passed in review the causation and symptoms of this distressing disease, I will now, in a few words, give my views as to treatment; and first, I would insist that, although general tonic and hygienic measures are essential to promote recovery, they as a rule are useless if employed alone. Local treatment must also be had recourse to, and may be accomplished either by the medical man or by the patient herself. If the case be not far advanced, then rest, with periodic douches of water, at a temperature as hot as the patient can bear them, and continued each time for at least ten minutes, will prove most effective in restoring the health of the parts. These will, if properly conducted, always have a most beneficial effect. At the same time, the patient must be dieted, have her digestive organs attended to, and the bowels carefully regulated.

It would be superfluous, not to say presumptuous, in me to hint at what would constitute constitutional treatment in such cases. I will, therefore, in as few words as possible, detail the local treatment I usually adopt. If there be much hypertrophy and excessive sensitiveness, I content myself with the introduction, twice a week, of a tampon, saturated with glycerine of alum and boracic acid, which I make sufficiently large to act as a support as well as a depleting agent. In a short time, varying from a week to a fortnight, it is generally practicable to commence intra-uterine medication; but sometimes this requires to be done for the first few times while the patient is under chloroform. This consists of an application to the whole endometrium of a saturated solution of iodine in carbolic acid; after which a tampon is introduced, and allowed to remain *in situ* for three days, when it is removed, and another applied for a like period. If there be much depression of spirits and nervous irritability, I find a pill, containing $2\frac{1}{2}$ grains of valerianate of zinc, and two grains of the

extract of conium, administered forenoon and afternoon, of great service. Of course, if a laceration of the cervix exist, this must be at once repaired, or the pendulous portion amputated, after the hypertrophy has been reduced by the local measures indicated.

311.—*PERICYSTITIS or Cellulitis in the Female, Accompanying Diseases of the Uterus and its Appendages.*—DR. WM. H. HALE—in *The Polyclinic*.—The practitioner is often called upon to treat vesical disorders in the female, and more especially is this the case if he is a specialist in diseases peculiar to their sex. Women consult us daily regarding derangements of the urinary apparatus which have been the cause of endless misery and distress for weeks and months at a time; exceptionally the affection may be of a year or more in duration. The bladder affection holds paramount sway in the mind of the patient, completely obscuring the symptoms of all other diseases with which she may be affected. Considerable difficulty may be experienced in obtaining anything like a tangible history, owing to the state of mind of the patient, she being very excitable, so that she is liable to exaggeration in describing the symptoms.

Previous to alluding to the causes and symptoms of the disorder, I wish to refer to the anatomical position of the bladder, together with its relation to the uterus and its appendages, as it has a direct bearing on the cause of the affection. The bladder is located posteriorly to the pubes, with its base in juxta-position with the cervix of the uterus. The peritoneum is reflected on its posterior surface, being connected to it by cellular tissue, and it is also adherent to the anterior wall of the vagina. The bladder is retained in its position by appropriate ligaments divided into true and false, and it is more particularly with the latter that we are concerned. The false ligaments consist of peritoneum, and are five in number, viz., two posterior, two lateral and one superior. To the first of these ligaments, the posterior, there is direct communication between the bladder and uterus, as they are reflected from the sides of the uterus to the posterior and lateral walls of the bladder. Throughout the course of these ligaments, and at their source and insertion, a considerable quantity of cellular tissue is found, which binds the different parts together, preventing their being displaced from their normal position. The cellular tissue is of primary importance, as it is subject to various pathological influences caused by inflammatory action, which are liable to produce such changes in the relation of the pelvic organs, that the welfare of the woman may be jeopardized during the remainder of her life. The cellular tissue of the pelvis prevents the deleterious action of various extraneous influences, such as falls, concussions, blows, etc., from its resiliency, so that the parts assume their normal position almost immediately on the pernicious action losing its potency. The action of the cellular tissue is as a cushion to the various organs, so that only when the force or pressure to which they may be subjected is con-

densed, as when the body is jammed against a wall, or by some object falling on a person, and forcing them to the ground, are the organs of the pelvis injured. From the above it is evident that any inflammation about the pelvis is to be avoided, as the adhesions thrown out bind the various parts together, preventing their normal functions being carried on, and also produces passive congestion of the parts, which is liable at any moment to become active.

Causes.—The causes of pericystic inflammation are various, but I desire to confine myself to one only, which seems to prevail more frequently than any other, and that is extension of inflammation from the uterus by contiguity, through the cellular tissue. The extension takes place through the cellular tissue of the posterior false ligaments, which connect the uterus and bladder. Dissemination of the morbid action occurs gradually, as it is of a passive character. The intensity of the inflammation of the cellular tissue surrounding the bladder is seldom great, unless there is a general pelvic cellulitis, but there may be occasional acute exacerbations. Previous to the development of the bladder trouble there has existed in the uterus and its appendages inflammation which involves these parts extensively. As soon as a portion of the cellular tissue around the bladder becomes implicated in the morbid process, but a short period elapses previous to the entire tissue at the base of the organ being affected, and consequently increase in the severity of the symptoms.

Symptoms.—The symptoms, as obtained from the patient, will refer to the bladder alone, and nothing to show antecedent disease of any other organ can be obtained, except by perseverance in questioning. She complains of great pain in urinating; this at times is so severe as to be agonizing. At times the burning and scalding is so distressing as to produce the sensation of the application of caustic to the parts. As the affection progresses the woman retains her urine as long as possible, owing to the suffering experienced in voiding it. The sense of irritation is so severe as to last for hours after emptying the bladder. In those who retain the urine until the organ is full, dribbling from the meatus occurs, but these are exceptional, as usually the irritation increases to such an extent as to produce the desire to relieve the bladder every few minutes. The frequency of micturition is accompanied by increasing tenesmus and pain, which annoys the patient exceedingly. The inflammation being passive in character, these symptoms in their severity, may not continue to exist for any length of time, although the inflammation continues without remission, but it is only when an acute exacerbation occurs that we see these cases in so pitiable a condition. If it is the first visit of the patient, we are liable to be misled by the severity of the vesical symptoms, but as this is simply an indication of deep seated disease, we should investigate further. As the uterus, lying adjacent to the bladder, is so often the subject of inflammation, we should always think of it as the focus of the diseased action, until we have positively decided it is not,

and for this purpose it is absolutely requisite that a physical examination of the generative passage should be made. Inspection of the vulva reveals considerable injection of the parts, due to the extreme congestion; possibly some excoriation of the labiæ, which is due to the acidity of the urine, and the deposition of salts on the parts, with their subsequent decomposition. The meatus urinarius is red and tumid, and there is great heat of the parts. Introduction of the finger into the vagina may find it dry and hot, although occasionally it is bathed in an unhealthy leucorrhœa which excludes from the os uteri. Pain may occur on passing the finger through the ostium vaginæ, and slight pressure will disclose extreme sensitiveness of the tissues throughout the extent of the vagina. Unmistakable evidence of inflammation of the uterus is exhibited by pain, leucorrhœa, congestion of the tissues, which is so great at times that withdrawal of the sound shows its extremity streaked with blood. The position of the uterus is frequently changed, either forward, backward or laterally. Subinvolution exists in the majority of cases. Conjoined manipulation shows increased sensitiveness in the hypogastric and sometimes both ovarian regions. It is unusual to find the inflammation of the ovaries of the same intensity, the pain on one side being generally greater than that on the other. In my experience ovaritis occurs more frequently, and with more severity on the right side. The pain is so severe that the slightest pressure is agonizing. Occasionally the round ligament may be involved, and this is denoted by the extension of a dull pain along its course in the inguinal canal, and terminating at its insertion into the labia majora. It is necessary in introducing instruments into the cavity of the uterus to be very cautious, as rough manipulation may increase the inflammation or penetrate the wall of the organ. If the inflammation of the uterus is severe, the use of instruments should be dispensed with until it diminishes somewhat.

Treatment.—This involves the consideration of the various phenomena presented, and must be constitutional and local. To remove the cause of the trouble is the primary object, and as the seat of the trouble is in the uterus, we should endeavor to extinguish the flame here, and the vesical trouble will rapidly disappear. Local treatment is useful by acting directly on the inflamed tissues. This can be accomplished in two ways, both being dependent on the other, viz. : by large douches of hot water and the application of medicinal agents to the uterine cavity. Nothing is so efficient as the proper application of hot water. The method usually employed by me is as follows : I direct that from one to two gallons of the hottest water the patient is able to bear should be injected into the vagina twice daily with a Davidson or Household syringe, the temperature of the water being maintained at the same throughout by constant additions from a kettle of boiling water kept at the side. If this is methodically applied it does more to reduce inflammation than any remedy I am cognizant of. Less trouble is experienced if the Fountain syringe is used, although

the former are preferable. The usefulness of hot water depends upon its action as a poultice, and this it effectually is when the temperature is high, for it comes in direct contact with the inflamed organs, and its virtues are expended with so much benefit, that the patient is only too anxious to use it, after several trials. Although this remedy increases the flow of blood to the part during its use, its subsequent effect is to drive the blood away, owing to contraction of the vessels of the part. The use of small quantities of water, as a quart or less, is insufficient, as it does no good except to wash the unhealthy secretions away; to obtain beneficial action it should always be used in large quantities, as described above. If possible the injection should be administered by a nurse, the patient lying on the back, with the limbs elevated, thus allowing the water, by gravitation, to come in contact with every part of the vagina, and having a larger surface on which to act. If astringent remedies are indicated, alum, tannic acid, zinc, copper, or any other, may be added to the water. These are especially serviceable when there is considerable relaxation of the vaginal tissues. Glycerine pledgets act beneficially if thoroughly saturated, and placed at the cervix of the uterus, as they combine with the water of the tissues, and thus lessen the engorgement of the congested parts. This hygroscopic effect is frequently so pronounced as to produce a profuse watery discharge, which may last several days, when the effect produced in reduction of the inflammation is very noticeable. Examinations of the parts after the use of several tampons will usually show a much paler surface, and very often less sensitiveness on digital examination. Half ounce to an ounce and a half of glycerine should be used to a tampon. If pain is severe, and there is no cessation in its severity after using the above, I give a suppository of iodoform and opium, or some analogous preparation, with tannic acid. The action is sedative and astringent to the surrounding tissues, and relieves pain, and to some extent the relaxation of the vaginal tissues. Locally in the inflamed endometrium, applications of Churchill's iodine twice a week, making them thoroughly to the entire cavity of the uterus. These will have to be continued for a long time, to produce absorption of the products of inflammation, and thus institute the tendency to involution. There are numerous formulæ of Churchill's solution, but this is the strength I am in the habit of using: Iod. gr. xxxviiiiss.; Potass. iodid., gr. xiv.; Alcohol, f ʒss. Various other agents are frequently useful, such as glycerite of tannin, carbolic acid, preparations of copper, although it is not advisable to allow a crystal of sulphate of copper to dissolve in the uterus, as it may cauterize so deeply as to produce a tendency to stenosis of the os. Carbolated iodine is also useful, as by it we are able to use both substances at the same time, but it is not in any way superior to Churchill's iodine. The iodine frequently produces a tendency to uterine colic, which I have overcome by applying afterward pure undiluted carbolic acid; this soon allays the sensitiveness, giving almost com-

plete relief. The use of cocaine previous to applications to the uterus, will be a boon to these cases, as they will hardly be conscious of the use of a medicament afterward. Absolute cessation of the sexual relation must be observed, as this increases the congestion of the parts, and if indulgence is frequent stasis of the circulation occurs from the continuous ingress of blood to the already abnormally full vessels, thus feeding the inflamed area with fresh fuel. Constitutional treatment is necessary in all cases, as the system is depressed from the long continuance of the affection.

The secretions are to be regulated; see that there is a healthy action of the skin, and that the bowels are regular. Quinine, nuxvomica, arsenic and the various preparations of iron should be used, according to indications. To keep the bowels regular, and as a tonic to the general system, the following is extremely useful; Resin. podophylli, gr. j-ij; Tr. nucis vom. vel.: Tr. ignatiæ, f 3j; twenty drops three times a day, before meals. As there is relaxation of the entire generative system, tonics which act directly on it are required, and of these preparations of ergot and the viburnum prunifolium are of incalculable benefit. The fluid extract of ergot may be given in doses of half a drachm to a drachm three times a day. Teaspoonful doses of the fluid extract of viburnum is preferable in the beginning, and if it fails to afford relief I substitute ergot. The viburnum is useful in allaying the severe sacral pain so often complained of, and for this one symptom alone is almost a specific. Alkaline diuretics are frequently useful in relieving the urinary irritation. The nutrition should be as condensed as possible, and it is much better for this class of patients to lunch at intervals of two to three hours, than overload the stomach at regular meals, milk, broths, soups, eggs and other digestible foods of like nature should be allowed. The hygiene of the patient should receive special attention. Fresh air and sunshine are good tonics not to be neglected. Exercise can be used in moderation as the patient improves, as in walking or riding, and this should be availed of daily if the weather is favorable. As the patient improves, massage may be useful, by improving the tone of the muscles, or frictions with a rough towel wrung out of salt and water, and rubbing the entire body, morning and evening, increasing the activity of the general muscular system. Regular hours and habits should be insisted on.

312. CANCER of the Womb.—We find in the *Medical Press* that Prof. Sireday uses a very simple but effective palliative treatment for cancer of the womb, and in the many cases in which he applied it, the patient's sufferings were rendered very supportable. His method consists in washing out the vagina by a solution of corrosive sublimate (1:3000), and in applying small plugs of cotton imbibed in a four per cent. solution of chloral and dusted with iodoform, to the wound. It is essential that the wound should be exactly covered with the first plug and left *in situ* for two days, when the dressing is

renewed. After a few days of this treatment the ulcer, which hitherto wore a very ugly aspect, becomes clean and resembles an ordinary wound, and the pain is greatly lessened. By this method also hæmorrhage is arrested, and thus the life of the patient is prolonged and her general state is greatly improved.

313. UTERUS, on Inversion of the.—DR. J. H. AVELING in the *British Gyn. Journal*.—Inversion of the uterus may be puerperal or non-puerperal, recent or chronic. Puerperal inversion is far more common than non-puerperal, in the proportion of about seven of the former to one of the latter. The frequency with which inversion occurs in connection with labour has been variously estimated. If we deduct those cases which escape observation, and those which are purposely withheld from publication, it would not probably be far from the truth if the proportion were taken as 1 in 100,000 labors.

Inversion of the uterus may be divided into complete and incomplete. There are three ways in which the walls of the uterus may pass down through its os during the process of inversion—fundal, lateral, and cervical. Fundal inversion is when the top of the uterus is carried down and passes through the os. Lateral inversion is when the side of the uterus slides down, and first passes through the os. Cervical inversion is when the lower part of the uterus is primarily extended.

The causes of inversion are predisposing and determining. The predisposing causes are very various; they may be enumerated as follows: distension or relaxation of the parturient canal, a large pelvis, the erect posture during labor, a short cord, first pregnancy, depression of the fundus, laceration of the os, and, more potent than all, the attachment of the placenta or of a tumor to the fundus.

The determining causes may be divided into automatic, systemic, and mechanical. It must always be borne in mind that a number of predisposing, and one or more determining causes, may be in operation at the same time; and that every case of inversion is probably due to the combined action of many conditions which favor the occurrence of the displacement.

Automatic inversion of the uterus is caused by its own muscular contractions. It is always of the fundal variety, and is determined by an indentation of the top of the uterus, or by some body attached inside to the fundus. In puerperal inversion, the placenta originates this action; in the non-puerperal, a tumour produces the same result. It is only necessary that the uterus should be able to grasp a portion of its fundus, or some body attached to it, to enable the contractions to continue the process of introcession until the organ is turned completely inside out.

Systemic inversion of the uterus is caused by muscular contractions outside the uterus. If certain predisposing conditions exist, such as inertia of the body of the uterus and relaxation or laceration of its os,

inversion may be produced by the action of the abdominal muscles, or of the abdominal and respiratory combined. The mode of inversion caused in this way is usually the cervical, the displacement commencing at the cervix, and the fundus reaching the vagina last. The fundal and lateral modes, however, cannot be looked upon as impossible.

Mechanical inversion of the uterus may be either propulsive or extractive, or both. The propulsive causes are blows on the abdomen; manual compression, such as is used in expelling the placenta; the weight of the abdominal viscera when the patient is sitting or erect; and distension of the abdomen by fluid or gas. The extractive causes may be manual or gravitatory. Traction on the cord during the third stage of labor has, more than any other, been considered as the most common cause of inversion. It may undoubtedly be thus produced, but it is not nearly of such frequent occurrence as many writers imagine. When the uterus is in a state of extreme inertia, traction on the placenta attached to the side of the uterus may produce lateral inversion, for in this mode of displacement comparatively slight force is required; one side of the uterus gliding over the other down through the os, and meeting with little resistance. Traction may be effected by pulling the cord or seizing the placenta itself. Inversion may also be caused by traction on a tumor situated at the fundus, during an operation performed for its removal. If the cord be short, it is also possible the expulsion of the child may cause such traction on the placenta as to determine inversion; and this displacement has been attributed to traction on the cord produced by the sudden descent of the child, when born during the erect position of its mother.

The Diagnosis of Inversion is by no means so easy as might be imagined. The occurrence of the displacement is so rare, and the conditions with which it may be compared, and for which it may be mistaken are so numerous that the practitioner is very apt to see only what experience has taught him to look for.

The earliest grades of incomplete inversion must be difficult to diagnose. It is, however, stated that a slight depression of the fundus may be felt through the abdominal walls; and this may be possible, if they be thin and yielding. The more certain way of detecting incomplete inversion is by passing the finger in chronic, or the hand in recent cases into the uterus, and feeling the indented fundus from within. If there be any doubt still left as to the character of the fundal protrusion, a bi-manual examination will clear up the doubt.

During recent puerperal inversion, the usual mistakes made are: taking the protruding fundus for the head or breech of the child, a mole, a clot, a polypus, or a placenta. The symptoms are so urgent, and the condition of the patient so critical, that errors are often committed in consequence of the practitioner not giving himself time to determine the exact nature of the presenting body. Hence arise those

most distressing cases, in which the inverted uterus is torn away in mistake for something else, and by the act the patient's life and the medical man's reputation are simultaneously destroyed. In recent puerperal cases, the symptoms assist materially in the diagnosis. The nervous condition is very marked; shock, pelvic discomfort, and faintness are observed. Manual examination discovers a large rounded mass in the vagina, which can be pushed up, replaced, and does not fall again, as would be the case with all the other presenting bodies for which it might be mistaken. The fingers passed through the os are also arrested, and no uterine cavity is to be found. The sensibility of the inverted uterus is another valuable diagnostic symptom. In recent cases, the inverted uterus, with a placenta attached (as is usually the case), or a tumor growing from the fundus, has been mistaken for uncomplicated inversion; and I have known a case of inversion with placenta attached erroneously pronounced to be a polypus.

The diagnosis of chronic inversion, whether puerperal or non-puerperal, is the same. Involution being complete, a hard, rounded, and smooth body is discovered hanging from the os uteri, which can be traced all round its attachment as a distinct rim. All these characteristics may be found so exactly simulated by a polypus, that the mistake of diagnosing an inverted uterus for a polypoid growth is the one most frequently made. Numerous cases are recorded in which the uterus has been removed in error for a polypus; and a still greater number are related in which the operation has been abandoned in consequence of the pain and shock immediately produced, and which have shown in time the true character of the body about to be removed. In ordinary cases there is no difficulty in diagnosing between chronic inversion and polypus. The uterine sound can be passed between the polypus and os, until it reaches the fundus, when the organ is found of normal length. A finger passed into the rectum discovers the absence of the uterus from its natural site, and a sound passed into the bladder can be made to touch the finger, positively proving that the uterus is not in its normal position. This is looked upon as conclusive evidence of inversion; but it is not so, for the uterus may be retroflexed with polypus, and the retroflexion felt by the finger in the rectum may be mistaken for the polypus. Another difficulty is met with when the polypus is attached to, or grows from, nearly the whole circumference of the os uteri.

A great difficulty in diagnosis arises when an inverted uterus has a growth in its fundus, and it is difficult to find a line of demarcation between the two. In these cases, the uterus is not of the usual form found when inverted, and the tumor may be so large as to lead the practitioner to believe the whole mass to be new growth, and endeavour to remove it. One other error is sometimes made. When inversion of the vagina has allowed an inverted uterus to protrude from the vulva, the displacement has been mistaken for prolapsus uteri.

Treatment.—As the uterus can be inverted in three different ways,

so can it be re-inverted. Fundal reposition may be attempted by pressing upon the fundus, with the object of driving it through the cervix. It is the most unscientific method of replacing an inverted uterus, as it demands unnecessary dilatation of its neck. Lateral reposition is a very effective plan of reducing recent inversion. The manœuvre consists of sliding one-half of the uterus over the other and through the os. Cervical reposition is the best mode of reducing chronic inversion. Re-inversion begins at the os, and extends upwards until it reaches the fundus.

Recent puerperal inversion of the uterus can be successfully treated by taxis, the patient having been previously anæsthetized. The ease with which reposition can be effected depends on the promptness with which the displacement is discovered, and the grade at which it has arrived. In all these cases the re-inversion should be done by the lateral method—that is to say, pressure should be exerted on the side of the fundus, so as to make one side of the uterus slide over the other and through the cervix, until the whole organ is reduced. The very worst plan is that of trying to indent the fundus and press it down into the uterus, with the hope of causing it to dilate the parts before it as it descends. In all cases the placenta should be removed before attempting re-inversion; for, if left attached, the placenta adds materially to the bulk which has to pass through the cervix. It may also be here stated that, in cases of chronic non-puerperal inversion caused automatically by fundal tumors, these should be removed before any attempt at reduction is made. In reducing recent, as in chronic, inversion, the axes of the pelvic cavity must be remembered, and taxis made in a line with the axis of the brim of the pelvis. This point will be referred to again. In applying force for the treatment of inversion it should never be forgotten that, although Nature is a willing servant, she must have time to do her work. Steady sustained pressure, with short intervals of rest, is by far the best way of employing taxis. Sudden and violent efforts at reposition only end in causing laceration and disappointment.

After glancing briefly at the various procedures which have been proposed and adopted in treating chronic inversion, the author continues: It was a case of obstinate chronic inversion which induced me to invent the sigmoid repositor in 1878. I had, in 1868, invented sigmoid axis-traction forceps, ten years before those of Tarnier, which have the same form, and, remembering that the sigmoid shape of this forceps gave traction in the axis of the pelvic inlet, I came to the conclusion that axis-pushing in the same line might be effected by a repositor having the sigmoid form. With an instrument thus constructed I felt I should be able to carry out Gooch's instructions, and press the uterus "in the direction of the upper axis of the pelvis," thereby rendering the reduction of an inverted uterus more easy and certain. My anticipations have been fulfilled in a most satisfactory and gratifying manner, for I now have the pleasure of relating eleven

cases of chronic inversion which have been treated and cured by my sigmoid repositior. In no case was the pain resulting from the treatment excessive, and only in one case were there any unpleasant after-consequences; but in this case the ultimate result was quite satisfactory. (On an average each case took about 40 hours for its cure, the longest time occupied being $54\frac{1}{2}$ hours, and the shortest 9 hours.

Directions for Using the Sigmoid Repositor.—Having diagnosed inversion, determine by touch the size of the fundus, and select a cup of proportionate size. It should be in diameter slightly less than that of the fundus. Next apply the belt round the waist, and then the braces over the shoulders, and fasten them by safety-pins to the belt. This should be done in such a way as to leave room to pass the tapes, to which the rings are attached, between the pin of the safety-pin and the belt. Now the cup of the repositor should be applied to the fundus uteri, and held firmly in position by an assistant while the rings are adjusted, two being taken in front and two behind. The ends of the tapes should next be passed between the safety-pins and the belt, parts of the tapes drawn through, and a knot made at the ends to prevent them slipping back. Tension may be lastly exerted by drawing the tapes up through the pins and fastening them at any point by tying a loop. This loop can easily be pulled out and re-tied, should more or less tension be required. Care must be taken to have the tension equally distributed; for, if the front bands be tighter than the back, there arises the fear of the cup being slipped back off the fundus; and the opposite may occur if the posterior bands be tighter than the front. The india-rubber bands passing to the front should be carefully laid outside the labia and packed with cotton-wool. If the patient be restless or complain of pain, morphine may be administered. She should be carefully watched and the urine drawn by catheter when necessary. It is difficult to lay down any rule for tightening and loosening the tapes. This will be determined by the practitioner, who must judge by the existing tension, and the tolerance of it by the patient. In my last case, re-inversion was accomplished without the tapes being touched after their first adjustment.

Reduction takes place by the cervical method. Pressing on the fundus causes counter vaginal traction on the cervix, making it unroll gradually until the inner os is reached, where a little delay is caused by its being less dilatable. When this point is passed, the body of the uterus soon opens, and admits the cup. The last step must take place rather suddenly, for all patients say they feel that something has "given way," and comparative comfort is the result.

When the inversion has been reduced, the sooner the cup is withdrawn the better, for the cervix immediately begins to close round the metal stem, and the cup becomes firmly grasped in the uterine cavity. The most easy way of removing the cup is to tilt it on end, and bring it through the os as you would a button through the button-hole. If it has been long retained an anæsthetic will assist. When the cup

has been removed, pass a thick sound into the uterus, and, by pressing the point of it forward, the rounded fundus will be felt through the abdominal walls. Being satisfied that complete re-inversion has taken place, syringe out the uterine cavity with iodine water at 120° Fahr, which will cleanse its surface and make the whole organ contract.

I think after considering these facts, you will come to the conclusion that every case of chronic inversion of the uterus can be cured by sustained elastic pressure exercised in the right direction; and I hope you will not think one too sanguine when I state my belief that the mutilation of a woman, by removing her uterus, will no longer be necessary in consequence of the impossibility of replacing this important organ when inverted.

314. PAROTID Affections following Operations on the Female Genital Organs.—At a late meeting of the American Gynæcological Society, Dr. Goodell read a paper on "Inflammation of the parotid glands following operations on the female genital organs," in which he referred to the close relation, which is known to exist between the salivary glands and the genital organs of the adult. He had seen the carotid suppurate after a posterior incision of the neck of the uterus, and had met with parotid bubo once in 153 ovariectomies, this occurring in a woman who had died on the twenty-second day, and who was at the time of the operation suffering from septic poisoning, following tapping of the cyst. He had also met with three cases in which there was transference to the parotid gland, in which there were no symptoms of septic poisoning. Two followed ovariectomy, and one oöphorectomy. None of these cases ended fatally, and the speaker regarded the affection as sympathetic rather than symptomatic. In the discussion, Dr. Sutton reported one case in which one gland after the other began to swell during convalescence after ovariectomy, the patient dying in the third week. Dr. Johnson reported one fatal case, and Dr. Mann related three cases, one fatal and two recoveries. Dr. Emmet had met with two cases; once after an operation for lacerated cervix, the patient recovering; and once after operation on a small vesico vaginal fistula, which ended fatally. Dr. Baker reported a fatal case of suppuration after Tait's operation; and Dr. Reamy described two cases, one fatal, after Tait's operation, and one with recovery after hysterectomy.—*Practitioner*.

315. CASUAL Incision of the Bladder.—An extract found in the *Cronica Medico-Quirurgica de la Habana*.—M. Reverdin, in operating upon a woman for the removal of a cyst of the ovary, in making an incision near the pubis, opened the bladder, which was united by a firm adhesion to the abdominal wall. He united the edges, with seven stitches (sutures of Lembert) of catgut, without

including the mucous membrane, and arranged a catheter permanently in the urethra. The patient convalesced without accident.

316. CONCEPTION, *How Turkish Women Prevent.*—One would suppose that the offspring at the harem would be large with such facilities at command, but such is not the case, the main reason being the systematic prevention of conception; and when pregnancy has occurred abortions are produced, of course not in every case, but in such cases as the master of the harem directs. Turkish women incline largely to these practices; consequently, the citizens of the empire are not increasing as they would under other conditions and circumstances. For preventing conception they use a piece of "bitter wood" an inch in diameter and about eight inches long. After the completion of the sexual act they proceed with this cylinder of wood introduced into the cavity of the vagina to mutilate the parts until free hæmorrhage occurs, when they consider themselves safe.—*Iowa Medical Reporter.*

317. OVARIOTOMY, *Influence of, Upon Menstruation.*—DR. TOMAMOS in the *Annales Medico-chirurgicales*.—From a large number of observations made by M. Ferrier, it appears that the removal, either simultaneously or successively of both ovaries, causes the suppression of the menses, but they may reappear once, twice or more times at intervals of from one month to three years. This reappearance may be due to a persistence of a species of functional habit, a congestive movement to the uterus, or also to the remains of some fragments of the ovary in contact with the pedicle. An action, Professor Schatz believes to prove, that any part, no matter how small, of the ovary remaining, cannot only sustain menstruation, but also makes pregnancy possible, as long as the tube of the same side is intact.

318. HYSTERIA, *and its Relations to the Uterine Appendages.*—But enough has been said on the symptoms, and we pass to the etiology. Having already given you Sydenham's views on this point, I will add that of a more modern author and then give you some cases from my own experience, and there leave the subject.

All authorities agree upon one predisposing cause, as by far the most important—so important and predominating that, in my opinion, it becomes very highly significant, viz.: sex. Until within a comparatively short time hysteria in the male was not even talked or written about, and even accepting all that we know of the reported cases, they are trivial in character by comparison. Men have a nervous system, and it would be wonderfully strange if we did not sometimes find manifestations of disease that would very closely correspond with one or more of the multiform phases of what we have just described. Hammond says that in "332 cases observed by him in six years, 329 were females." Now it is not the object of this paper to attempt to enter into all the causes that have produced and may con-

tinue to produce hysteria in the female. The causes may be as various as the symptoms or the cases—I do not deny any cause that may seem to be well established by any mode of reasoning, whether derived from theory or practice. I simply propose to give you some instances derived from my own experience, selecting such cases, from quite a large number treated, as will illustrate a variety of symptoms, and results obtained by the methods employed.

Case I.—Miss B., age 37, occupation, a school teacher for many years. A woman of unusually fine culture and strong character in all respects. Had been particularly successful in her vocation. Possessing an indomitable will, she had continued in her work as long as possible, but for about five years previous to coming under my care, had been unable to do any labor, either in teaching or otherwise. Her illness dates from eleven years before. During the first few years she suffered from impairment of menstrual function, alternating amenorrhœa and menorrhagia, severe dysmenorrhœa, with marked premenstrual pain for many days. Gradually the nervous symptoms became more prominent, characterized by insomnia, headaches, neuralgia in the spine and sides, flushing and pallor of face, the dark-red spot in the centre of each cheek becoming a prominent symptom in the later years. She had consulted physicians early in her trouble, but only at rare intervals, and for five years previous to my seeing her had been constantly under the care of the best she could obtain. Notwithstanding she continued to grow worse until she became a helpless invalid, unable to work physically or mentally, or even to move about. The mind became disordered to the extent that her friends proposed removing her to an insane asylum.

When I saw her she could get around her room and out of doors by holding on to the sides of the room and thus supporting herself, but her limbs seemed to have lost their use so far as supporting the body. She slept but little, and could not restrain herself from long attacks of crying. I think she had a strong suicidal tendency. As each menstrual period approached the symptoms were all aggravated, and during the period she was apparently oblivious of much that occurred. Knowing that she had received as good care and treatment as the State afforded, with apparently no relief, I soon became convinced that nothing but a cessation of the menstrual function offered much hope. I found sharp retroflexion of the uterus, to which pessaries gave no relief, on account of the extreme sensitive condition of the vagina, preventing her wearing one for any length of time. There were also prolapsus of the right ovary, so that it could be felt in the posterior cul-de-sac. It was not particularly tender, however, and was movable and easily pushed up, so I did not attach special importance to the fact of displacement alone.

On June 20, 1883, I removed the uterine appendages. I found very extensive cystic degeneration of each ovary, the right one being about twice the size. The tubes were partially closed, and several small cysts

adherent to them. There was a general passive congestion of all the parts removed. It was impossible to retain the uterus in place, so the retroflexion continued, and I doubt not retarded the progress of recovery, which from that time commenced, and slowly, but surely, continued, growing better each month. All the prominent hysterical symptoms had disappeared at the end of the first year, and she began to enjoy the comforts of life. On the anniversary of the day of her operation, at the end of two years she writes as follows :

"Please permit me once more to give an expression of gratitude for the gain of these last two years. I can see that I am *stronger* than a year ago, and *much improved* from two years ago. I thank you very much and can always assure you of my best wishes." Within the past year she has grown still better. In many respects this was one of the very bad cases on account of the severe and obstinate retroflexion.

Case 2.—Miss B., aged 24. From her first menstrual period until the day of operation, she suffered the most terrible agony sixteen days out of every twenty-eight. Twelve of these days of suffering were marked by epileptiform convulsions ; pain of the most excruciating character in all parts of the body ; the following four days had no less suffering, but were attended with flowing. The remaining twelve days of the month were almost entirely free from suffering of any kind whatever, but always at the end began the same round of troubles. Her friends became very anxious in regard to her, as she frequently threatened to take her own life. In this case there was partial prolapse of one ovary.

The operation for removal of tubes and ovaries was made, and the specimens showed a condition similar to the last, with the addition of a complete string of small cysts along the entire length of one of the Fallopian tubes. They looked like a string of small beads. There was a complete closure of both tubes. From that day until now, she has not had (to use her own language) "one minute of any kind of ache or pain ;" she is perfectly well in all respects and a more grateful and happy person one would rarely meet, with no hysteria or other abnormal nervous symptoms.

Cases 3 and 4.—So closely resemble each other, and being of another type from those described, I give them together. Miss L. and Miss N., of about the same age, 24. Miss L., temperament, family and personal, nervous. Four sisters—all nervous—three have painful menstruation. Menstruated first at 13—not regular first year—nausea, pain in back, headache and pain in the lower limbs; length of period five or six days. Had measles four and a half years before the operation, since which has been suffering much at periods—flow of but one day—within the past two and a half years the flow has been followed by nausea and vomiting nearly every morning for two weeks. Hysterical symptoms of a painful convulsive character at each period—screaming, crying, globus, etc. Never had hysteria before measles. Has been under the best medical care she could ob-

tain, with all the opportunities of best hospital care—no relief whatever. I found a very sharp antelexion at cervico-corporeal junction—made forcible dilatation, followed by the usual local treatment of packs, douches, rest, etc.; no relief. Operation showed extensive follicular cystic degeneration of both ovaries, with atheromatous closure of tubes.

Miss N. so closely resembled the last, both in having measles as a cause of aggravation of symptoms and antelexion, that a history of one is that of the other in many respects. The flow was preceded by many days of severe suffering, which became hysterical convulsions during the flow, which lasted two weeks. The character of pain and amount of flow, at each period, resembled a miscarriage of the severest kind; dilatation afforded no relief; no fungus growth that could account for flooding. After several years of treatment with no benefit, the operation of removal of uterine appendages was made with entire relief to all suffering. From being a chronic invalid she is now entirely well and able to perform any kind of labor. Miss L. was also completely relieved from suffering, but has not yet regained her strength so as to be able to be about, although she is improving rapidly, considering her very anæmic condition previous to operation.

The pathological condition of the tubes and ovaries were similar in Miss N.'s case, except that there were two or three cysts of the tubes as large as peas.

Case 5.—Mrs. F., age 30, married seven years, had three children within four years; never pregnant after that, although no means were used to prevent it. Three years ago began to have nausea and vomiting, which in six months became a constant thing after taking food. She and her husband believe that for the two years previous to operation she did not retain a spoonful of any kind of food. She became almost entirely bloodless, and so weak that she would frequently fall to the floor, when about her work, in a hysterical convulsion, that would sometimes last for hours. Symptoms aggravated before and during menstrual period.

After two years of treatment under my care I became convinced that only a cessation of menstruation would give relief. For a few months she tried various modes of treatment, and finally consented to the operation. In three weeks she was able to return to her home. From the day of the operation she did not vomit once, but was able to eat everything she desired. Previous to the operation her finger nails had become entirely dead, flattened, clubbed and turned up at the ends, so as to cause the ends of the fingers to bleed and be constantly painful. Since the operation everything has changed, she is a strong, florid, fine healthy woman as the city affords, taking entire charge of her family and riding on horseback and driving every day. The left ovary was twice the normal size and contained a cyst holding half a drachm.

A similar case to the last, so far as the constant vomiting is concerned, I operated upon two months since, and so far as we are able to judge at this time the result is equally good. Married sixteen years, a great sufferer from dysmenorrhœa fourteen years, during which time she has been under good treatment from various intelligent physicians, never pregnant. Alternations of amenorrhœa and severe flooding, with repeated attacks of pelvic peritonitis. Tubes and ovaries adherent throughout their entire length. I had great difficulty in detaching them, but finally succeeded. The ovarian tissue was entirely destroyed by inflammatory softening and exudate, tubes impervious and like whipcord, a chronic partial congestion in all the pelvic organs. Severe and obstinate vomiting followed operation for more than two weeks, accompanied and doubtless largely caused by peritonitis. Now she is taking a good quantity of nourishing food with impunity, and is recovering very rapidly.

I have selected these two together, as they illustrate one phase of the reflex symptoms.

In another case Miss L., aged about 30, hysterical catalepsy had been a marked symptom for several years. She would lie for weeks at a time utterly oblivious of everything and every one about her. At intervals rigidity of body would come on, lasting for hours. Neither drugs or other means of treatment gave any relief. She had all the benefit of hospital care and attention for months at a time. There was marked retroflexion with complete retroversion. Replacement and support would relieve for a short time, but nothing permanent came until the operation of castration was made, since which she has never had the slightest return of any one of the symptoms. Extensive follicular degeneration of the ovaries was found. Insomnia, vomiting and indigestion had been prominent in this case. She eats, sleeps and digests perfectly, and is now a healthy, well nourished young lady.

I have now made the operation twenty-five times, and each case has a certain amount of professional interest. Four or five have been made for uterine fibroids, mostly for excessive hæmorrhage, with complete relief to the hæmorrhage. One case the removal was made hoping it might stop the growth of a fibroid and relieve the suffering due to pressure. There has been no relief, however. I think cases like this should have hysterectomy. The cases reported are selected as types of the various phases of hysteria. Among the cases not reported are types of the same phases, and with as good results.

In only one instance I was unable to remove the entire substance of the ovary and tube, and this is the only instance of continued menstruation. She suffers very much at these periods, and I think I shall make another trial to finish it. In no case have I failed to find well-marked disease of the appendages, either strong evidences of former attacks of oöphoritis, as indicated by exudate and other organic changes in the substance of the ovary, or enlargement and stenosis of the fallopian tube. In not more than four instances have I been able to make a

diagnosis by the touch, but have in all the others operated entirely for the relief of the hysterical symptoms. With the single exception named, in every case great relief has followed, and with two exceptions, I have no reasonable doubt that a complete cure will result after a reasonable length of time. We cannot expect that a nervous system that has suffered for years will at once resume its normal functions. The wound is tender after the thorn has been removed. Effects do not immediately cease on the removal of the cause; women suffer more or less from some disorders of the nervous system at the natural menopause; similar symptoms naturally follow an artificial one.

I do not by any means claim that all hysterical symptoms are due to diseased uterine appendages; but I am sure, from this experience, that in these cases they stand in the relation of cause and effect. I know that in a very large majority of these cases these women have been suffering invalids for years, and that all modes of treatment have been of no avail. From being burdens to themselves, and dependent upon their friends for help, they are now comfortable and independent. Through long suffering and in many instances from lack of sympathy for their suffering, life has lost its charm and they would gladly have rid themselves of it, while now they are glad to take their places as useful members of society.

I have never operated in any case where I have not been well satisfied, either from my own care of the case, or from that of intelligent physicians, that further treatment in any other manner would be of no avail. I have no regrets at the course pursued up to the present time, and I know of no case where the patient regrets the step she took.

In answer to the objection that it unsexes the woman, I have only to say that in all the married women, they either have never been pregnant or have not since the beginning of their most serious symptoms, even though several years have elapsed since their last childbirth.

Dr. W. Gill Wylie, professor of gynæcology in the New York Polyclinic, in reporting thirty-seven operations for removal of the uterine appendages, in the *Medical News* of March 27, 1886, says: "I have yet to see a well-marked case of hystero-epilepsy or decided hysteria operated upon, in which the ovaries were not found in a state of cystic degeneration or very much atrophied. And these are nearly all associated with an imperfectly developed or atrophied uterus." And in the same paper he says, what I have found true in several cases, "that in those cases where the subjective symptoms were chiefly reflex and of a nervous order, the *immediate* results were by no means always satisfactory, although many recovered after being seemingly unimproved for several months."

When we take into account how little has formerly been done in these long standing reproaches to the profession, we can certainly get much comfort from the results in his cases. On this point he

says: "It is yet too soon to speak positively about the results of the operation in all classes of cases, but I can say without hesitation that in those cases where the subjective symptoms were actual local pain and physical inability to go about without causing persistent pain—and almost all the cases of pyo-salpinx would come under this head—the results were good and satisfactory to the patient and physician. In many cases the relief from pain was gratefully acknowledged at once."

This is so thoroughly in accord with my own experience that I need only to quote him as applicable in a majority of my own cases. The experience of Battey and Tait, who are deservedly the pioneers in this department of gynæcology, is now so well known to the profession, that it would be supererogation at this time to allude to it in detail. It is no longer a question with them what shall be done with this large class of sufferers; by hundreds of cases they have demonstrated the utility of the procedure.

The very extensive and valuable papers relating to this and kindred subjects, by Mary Putnam Jacobi, show that what at first glance may seem to be only slight changes in the ovary and tubes, are really severe structural organic changes, that without doubt have destroyed their function.

If I were asked to formulate my views, derived from my own experience and that of the men who have done much more in this direction, I should sum up as follows:

1. That these (so-called) hysterical symptoms occur almost exclusively in women. That whenever any of them do occur in men they are much less in degree, even if they do not differ in kind.
2. That it is fair to presume from the first proposition that it is due to disease of some organ or organs peculiar to women.
3. That they are not due to disease of the uterus alone, for when all apparent abnormalities of the uterus are corrected, the symptoms, very often, are not in the least relieved.
4. That all modes of treatment, other than operation, have failed to cure, and in most instances have not ameliorated the symptoms, even where the disease was believed to exist in the uterine appendages.
5. That the large majority of all cases operated upon have been entirely cured of the symptoms for which the operation was made, and the remnant have been relieved and are continuing to improve.
6. That it is impossible, in a majority of cases, to determine by the touch, disease of these organs that will produce the symptoms alluded to.
7. That one can by these symptoms alone make a sufficiently satisfactory diagnosis to warrant the operation.
8. That after correction of all well known and clearly diagnosticated uterine troubles, these symptoms are not relieved, we are justified and required, for the cure of our patient, to recommend this remedy.

9. That the operation does not in any case destroy the sexual desire, or in any way unsex the woman, except so far as it may prevent further childbearing.

10. That in a majority of cases requiring the operation the woman is already sterile.

11. That in my own experience the specimens removed have been found so changed by inflammatory action as to be cirrhotic, or otherwise destroyed, either by softening or cystic degeneration of both ovaries and tubes, with very frequent stenosis of the latter.

12. That a fatal result from the operation is extremely rare, if it is carefully performed and closely and intelligently managed as to the after treatment. In the twenty-five cases operated upon there has been but one death.

It is certainly time that the profession were done with the old idea that a hysterical woman is only to be laughed at, and treated as one who deserves no consideration at our hands. Thousands of women, of the strongest character, have been cruelly and shamefully treated by their friends, even while they were suffering the most excruciating agony, and simply because the profession has given countenance to the theory that "she could prevent it if she chose," that she was "only hysterical." We cannot expect more from the laity than we teach them. Instead, let us each strive to "contribute something to the science of pathological anatomy" out of this mass of distressing symptoms.

Obstetrics.

319. PALPATION, Abdominal, in Obstetrics.—Although the possibility of obtaining information as to the position of the foetus *in utero*, by means of carefully conducted manipulation of the abdominal walls, is mentioned in most of the best text-books on obstetrics, its systematic use is neither advised in treatises nor taught in schools. That it should form no part of the usual practical instruction, is not difficult to understand. The whole system of imparting a knowledge of the subject in this country is, with one or two notable exceptions, so utterly imperfect and so absurdly inadequate, that the only matter for surprise is that the ultimate result should be as satisfactory as it is. With no obstetric wards in general hospitals, and in the absence of any facilities for profiting by the experience to be gained in special hospitals, it is indeed hard to suggest a means by which the end can be attained.

On the continent, generally, where a more liberal system exists

practical obstetrics form a recognized and efficient part of the usual curriculum, and there, too, great stress is laid upon abdominal palpation as allowing a fairly accurate diagnosis, at a time and under circumstances which prohibit or prevent an useful vaginal examination. Even where this latter means is permissible, the valuable additional evidence to be obtained by palpation can only be disclaimed by those who have not been made conversant with its advantages. The subject is by no means new, so far as general ideas are concerned; but more recently Wigard, Mattei, Tarnier, etc., have given a remarkable stimulus to this method, and these ideas have since found an able exponent in Dr. Pinard, of the Lariboisière Hospital in Paris, who has systematized the method and brought it within the range of practical obstetrics.

Abdominal palpation, to yield practical and reliable results, must of necessity be preceded by a competent knowledge of the ordinary and possible relations of the foetus with the uterus and abdominal cavity. These must be thoroughly mastered, as well as the mechanism of labor in its bearing on the position of the foetus.

The woman to be examined is placed on her back, with the head low and the legs flexed on the abdomen, the precaution having been taken to empty the bladder and rectum. The tumor will thus be rendered more prominent, and the parietes of the abdomen relaxed as much as possible. Notice should be taken of the thickness of the abdominal walls, as this may modify very considerably the sensation on manipulation. It is, moreover, desirable to employ this method before resorting to any other mode of examination, in order to have the mind free from any preconceived idea on the subject. The hands are then placed flat on the site of the tumor, and are pressed firmly in, so as to enable the observer to draw his own conclusions as to the size and the nature of the tumor. The most useful sign furnished by palpation is the *ballotement*, known in this country only as a sign obtainable by vaginal examination. This sensation of the rebound of a solid body floating in a liquid is as reliable and as easily obtained through the abdominal walls as *per vaginam*. At the same time, active movements on the part of the foetus may be perceived, and the information so obtained may be controlled by means of the stethoscope.

It is well to begin by ascertaining the position of the head, and whether or not it has cleared the brim. For this purpose, the hands are placed with the fingers together and pointing downwards on each side of the median line, and so that the tips of the fingers are just above the pubes. It may not be amiss to call attention here to the desirability of avoiding cold hands, as otherwise reflex contraction of the abdominal muscles will put a stop for a time to effective examination. These manœuvres should not be attended with discomfort (still less pain) to the woman, and the firm steady pressure necessary to the object in view can be employed without involving

either. The hands being in position, they should be pressed down gently but firmly in the direction of the true pelvis, dipping behind the osseous arch. If the head be present and above the brim, it will easily be felt as a globular mass, readily movable, and offering on one side the characteristic sensation of a smooth hard surface, the forehead. If the head be engaged, that is, have passed the brim, the hands should be further pressed down, the woman meanwhile breathing deeply; and the head will then be detected, less readily movable or fixed, and the forehead will be felt at a higher level on the right (taking the first cranial position as an example). Having satisfied himself as to the situation of the head, the medical attendant should then examine the remaining part of the tumor. With the same gentle but firm pressure with the open hands, endeavors should be made to trace the plane of resistance, corresponding to the vertebral column, of the foetus, which in a woman with fairly thin abdominal walls can be followed up without difficulty. This will be found to terminate superiorly in a smooth, rounded, semi-elastic prominence which yields to pressure; and, continuing the examination, the small parts (knees and feet) may be felt on the right side, and active movements may be elicited. Should the preliminary search for the head behind the pubes not be successful or be unsatisfactory, particular attention should be directed to the superior extremity, with a view of ascertaining whether it be the head or the breech. There are several important signs on which reliance may be placed for this purpose. The peculiar and independent mobility of the head on the neck, together with a break in the plane of resistance, are, taken together, very significant. The *ballotement* is here obtained with the greatest ease, and the return shock of the head is altogether more prompt and distinct than the soft impingement of the whole body. Sometimes the head is more to the rear, or it may be hidden beneath the false ribs; and in this case it is necessary to effect some slight rotation of the foetus before a satisfactory diagnosis can be made. The breech will generally be found in the iliac fossa of the opposite side to that of the head. When this state of things is discovered before the presenting part has become fixed, it is by no means a difficult task to effect version by external manipulation, so as to bring the head into the desired position over the entrance to the pelvis; and, when this has been effected, a suitable belt will maintain it in place. A periodical examination is, however, desirable to make sure that no further change in position has taken place. This operation is now performed almost daily in foreign hospitals, and with the most satisfactory results.

In transverse positions of the foetus, the shape of the tumor will at once be detected to be different from the normal. The head, which has not been detected in the usual position, should be searched for in one or other of the iliac fossæ; and as soon as the plane of resistance, and consequently, the exact position of the foetus, have been made

out, steps should be taken to rectify the malposition by the same means as in a case of breech-presentation; and the head, when brought down, should be fixed by means of the usual abdominal belt, especial care being directed to its retention there, until, by descent into the pelvis, its stability is ensured.

This procedure, as we have explained above, does not preclude the use of other sources of information; but in experienced and painstaking hands it may be made to furnish the means of diagnosis which would otherwise be altogether impossible. It is not too much to affirm that in the obstetric wards at the Lariboisière Hospital, the birth of a child by other than a cephalic presentation is never permitted to take place, if at the time of application the foetus be still mobile and if the fixity be such as to render readjustment impossible. The fact of the malpresentation is known long before it could be ascertained by vaginal examination, and suitable precautions can be taken in consequence.

Although, at present, means are not available for teaching this and other details of practical obstetrics in a manner worthy at once of the subject and of the metropolis in which we live, sufficient skill can easily be acquired by the general practitioner, with a little perseverance, to enable him to derive much help in his work, and especially in the more difficult cases.—*Brit. Med. Jour. Ed.*

320. ANÆSTHETICS in Labor.—In an address before the Berlin Gynæcological Society, reported in the *Lond. Med. Rec.*, Dr. ERNEST COHN gives the results of his experience in the use of various anæsthetics in cases of labor.

1. *Nitrous oxide oxygen* is a mixture of nitrous oxide gas and pure oxygen, the latter being in such quantities as to render the mixture innocuous; in fact, it can be inhaled for hours together without any bad results. After having been inhaled for some time it produces what may be termed semi-narcotism; the sensorium remains unaffected, just as for instance in the first stage of falling asleep; and whilst there is a consciousness of mechanical touch, there is an entire absence of pain. Before trying this gas on the patients, Dr. Cohn experimented upon himself, his colleagues, and the nurses. In his own case, after taking from four to six inhalations, keeping the gas as long as possible in the lungs, he felt intense formication, beginning at the extremities and extending upwards till it ended in loud noises in the head, followed by a feeling of violent congestion. After inhaling for a long time, he had an incision made into a boil from which he was suffering, but felt considerable pain from the operation. As soon as the mask was removed from the face, the effects of narcotism vanished. One of the nurses, however, became totally unconscious and awoke only slowly. As to the effects in labor, the psychical influence was absolutely favorable, except in three cases. As a rule, after a few inhalations the patient lay still, did not cry out, assisted the pains by

abdominal effort, and could give answers when the mask was removed from the face. In three cases, however, the effects were quite unexpected and alarming. The patients grew intensely excited, threw themselves about, struck and kicked, and shouted like maniacs. To narcotize them further required a considerable amount of force, but when they awoke they were unaware of all that had passed; and had felt no labor pains. On the whole, Dr. Cohn agrees with Döderlein as to the beneficial effects of the gas in labor-cases, the heart and lungs remaining quite normal. But for private practice he cannot recommend it, because of (1) the possibility of the gas causing excitement; (2) the difficulty and expense of obtaining the gas; (3) the awkwardness of conveying to the house about 200 litres of the gas and the rather bulky mouth-piece.

Bromal does not affect the pains as such, and under its influence the breathing and pulse are unchanged, and the sensorium hardly affected. Dr. Cohn usually allowed the patient herself to hold the mask before her face. The abdominal pressure is strong and accelerates the birth, while there is no feeling of pain. But the bromal received into the blood is only slowly thrown off in the form of a gas, with a keen odor of leeks, from the breath not only of the mother but also of the child. Yet Dr. Cohn has never found that the presence of bromal in the blood of the child has had any bad effects. In many cases also the patient requires to inhale but a very small quantity of the anæsthetic, and then this disagreeable after-effect is only slight. With nervous sensitive women, by whom the abdominal pressure is not exercised for fear of pain, the use of bromal will in many cases render unnecessary the use of the forceps, and a labor that has been stationary for hours will be quickly brought to a satisfactory conclusion.

Chloroform has been in general banished from obstetrics, for fear of its retarding the action of the pains. But even supposing this to be true (and it has been proved to some extent by Winkel), it is not correct to assume that a decrease of the intensity of the pains means a delaying of the birth. Certainly a complete standstill of the labor may be brought about by deep chloroform narcosis, during the stage of expulsion. This, however, is not a result of the cessation of the pains, but of the paralyzing of the abdominal muscles. It can also be observed in laparotomy that chloroform has not the same effect on involuntary as on striped muscles; for in the deepest narcotism the peristaltic movement of the intestines is unimpaired. At any rate, it is clear that in normal cases deep narcotism cannot be resorted to only for alleviating the pains; but with slight narcotism it is different. After having been slightly chloroformed by a few inhalations, the woman in labor, without exception, feels no more of the pains. The contractions of the uterus, which involuntarily put the abdominal pressure into action, are perceived. In this way chloroform acts similarly to moderate doses of morphine and chloral; the latter, how-

ever, in stronger doses reduces also the intensity and frequency of the pains. Hence, in cases of spasmodic labor-pains and threatened rupture of the uterus, Dr. Cohn uses morphine injections in preference to chloroform. The after-effects of chloroform in labor are absolutely *nil*. Asphyxia, in a few cases fatal, occurring during the cleansing of the uterus after abortions, always at the beginning of the operation, seems attributable rather to the effect of the disinfecting injection: In cases of eclampsia, Dr. Cohn asserts that continued slight narcotism accelerates the birth. Last year out of seventeen cases of eclampsia only eight, including two cases of twins, were treated by operation, whilst nine very severe cases concluded spontaneously.

Short deep narcotism has only a slight influence in the course of labor. The opening proceeds perhaps more slowly. Expulsion ceases entirely during the period of narcotism, but becomes the more energetic in the stage of slow awaking. Secondary uterine hæmorrhage, which might have been ascribed to deep narcotism, has never been observed by Dr. Cohn with his method of treating the third stage. The great drawback to the use of chloroform is its effect on the child, which sometimes appears to be narcotized, and requires much time and trouble to be brought round. In one case, in which the mother had been two and a half hours in a state of narcotism, the child died four seconds after birth.

On the whole, Dr. Cohn prefers chloroform to bromal. He allows a few drops to be inhaled when the pains first begin, and before the abdominal muscles begin to act and increase the pain. Forty grammes will suffice in the case of a primipara to render the whole period of expulsion painless—certainly a very small quantity spread over so long a period. But to anyone who objects to chloroform, he can confidently recommend bromal.

321. PROTECTING the Perinæum.—How to protect the perinæum has long been a problem, and the various means proposed have not completely solved it. Pressure directly upon the part while the head is endeavoring to pass the vulvar orifice is extremely imprudent. The powerful pressure upon the perinæum by the head above and the hand below so squeezes the tissues that much of their natural elasticity and resistance are lost. So this mode of "supporting the perinæum" actually *favours* rupture, instead of preventing the same.

Dr. Mekertschrantz, of Germany, advocates the following method: The patient lies on her back with the lower limbs flexed and knees not so far separated as to put the perinæum on the stretch. Now the right hand is placed over the perinæum (no pressure), and with the fingers on one side and the thumb on the other the two sides are approximated, thus relaxing the perineum. He further advises, when the frænum is put upon the stretch, that the left hand be placed above, the wrist resting upon the mons veneris, the fingers

grasping the labium on one side and the thumb the other, and by approximating the two sides the frænum is relaxed. After the expulsion of the head the left hand does whatever becomes necessary, while the right hand remains on duty relaxing the perinæum during the expulsion of the shoulders.

The doctor reports remarkable results from this method. In fifty primiparæ a trifling rent was observed in only two cases.—*Medical World*.

322. AFTER-COMING Head, Application of the Forceps to the. Leading article in *American Lancet*.—A case has recently arisen which will illustrate the careful discrimination necessary in teaching, either at the bedside, or, and more particularly, by means of printed pages. Experience goes to show that while the general practitioner is far in advance of the specialist in many ways, he is, nevertheless, as a rule, incompetent to compete with the latter in those conditions of which practice and long study have made him master. This has been, practically, the teaching of Prof. Schroeder, of Berlin, in regard to the application of the forceps to the after-coming head. In the majority of cases this is no easy operation—an item which obstetrical writers are apt to overlook—and at times impossible even in the hands of the most experienced. In those cases in which it can be accomplished, the *modus operandi* is quite a different thing from the application of the forceps in head-first cases, and the average medical man by much delay assures the death of the child, and by awkward manipulations, the injury of the mother's soft parts. Recognizing these facts, Schroeder has always taught that when a head cannot be extracted by the usual methods, perforation should be done, as the safest method of effecting delivery.

Prof. Credé, of Leipsic, has, however, recently come forward (*Archives für Gynacologie*, b. xxv, p. 324) with a report of sixteen cases, in which, after manual attempts at extraction has failed, delivery was accomplished by forceps, with the result of saving twelve (12) of the children. "If," he says, "these cases had been handled according to the method of Schroeder, the entire number of twelve which we saved, must have perished."

This would seem to indicate that Schroeder is altogether too hasty in his advice to perforate. But is it so? The Berlin professor, writing for the benefit of students and general practitioners, does not lose sight of the fact, and, from his large experience, advises that which he believes to be the safest method. Credé quotes in his article—which is more particularly intended for specialists—the results of the use of forceps in the hands of *experts*. If we look over the statistics of head last cases, we find that there is but a very small percentage of all the number which cannot be extracted by the methods known as the Prague, or the Smellie-Veit method.

Granting that there is a small percentage of cases which cannot be

thus dealt with successfully, we must subtract from this number those cases which, because of abnormal conditions, either foetal or maternal, cannot be born without perforation, and the actual number of cases left where the forceps might in expert hands prove of use will be so surprisingly small, that the general practitioner could hardly hope to meet with more than a half dozen such during a long experience.

It is not to be denied that the forceps are often applied to the after coming head and successful delivery effected, where, in most cases, if not in all, proper manual efforts would have succeeded.

So limited, however, are the opportunities for the study of operative obstetrics in this country that many practitioners, and particularly the young men, find great difficulty in delivering the head by the methods mentioned. Most have, however, acquired more or less facility in the use of forceps, and there can be no hesitancy in saying that in such a state of affairs it is much wiser to attempt an instrumental delivery at once, rather than to run the risk of losing the child by the manual methods.

But while this may do for the man of little experience, the older practitioner will find that the manual extraction is easier, safer, and quicker than the application of the forceps, and in those cases where the head cannot be extracted by these means, the forceps offer little in the way of hopeful results.

323. RECTAL Expression.—DOLÉRIS, in a number of the *Répertoire Universel de Gynécologie* for March, advises, as one of the means for preventing tears of the perinæum, delivery of the head of the fœtus by rectal expression. He attributes the method to Olshausen and Ahlfeld, and describes it as consisting in the introduction of two fingers into the rectum of the parturient toward the end of the expulsive stage, carrying them as far as the mouth or under the chin of the child through the recto-vaginal wall. Then with these fingers drawn in front and above, and by suitably directed gentle pressure, the deflection of the head, which is gradually elevated to the pubic arch, is effected or completed. The free hand may be used to assist this deflection. Two points are urged by Dolérís in rectal expression: First, let it not be done in the interval of contractions; second, let it not be begun until the posterior angle of the anterior fontanelle is fully in the commissure.

Of course, the use of the fingers in the rectum for the delivery of the head is much older than the practice of Olshausen and Ahlfeld, but we have never been able to see how this method in itself furnished any greater security for the safety of the perineum than spontaneous delivery does. It can by no means increase the circumference of the vulvo-vaginal ring, and when that circumference is equal to the circumference of the foetal head, the latter passes through without doing injury to the former. External means are quite as efficient in retarding the exit of the head until the orifice, through which it is to pass,

is sufficiently dilated, and in guiding the head in the axis of the final portion of the birth canal, while they are much less repulsive; art should be an imitation of nature, and nature gives no hint for the performance of rectal expression.

324. RETAINED Placenta, Treatment of.—Professor PAJOT in a lecture published in *Gazette des hopitaux* gives the following conclusions. When the placenta is detached and you are certain of it, you may make gentle and continuous traction, watch and wait. If the placenta is not separated do not make traction upon the cord for fear of causing inversion of the uterus, or of producing a severe injury or a formidable hæmorrhage. Above all, beware of giving ergot, and remember these words, *never give ergot when there is any thing in the uterus*. What then is to be done? Place the woman across the bed, seize the cord and follow it up, and with the finger endeavor to gently detach the placenta, and remove all that you can. Then give an antiseptic injection which should be repeated on the following days. If there is any hæmorrhage after you have taken it away, you may then give a little ergot.

This is the course in labor at full time, but abortion yet remains to be spoken of. There are two conditions which may present themselves, the one common, the other rare. The first is the retention of the detached placenta, the second, the non-detachment of the placenta which continues to live in the matrix. In the first case, the rule is no interference, so long as there is no odor, or that is to say, so long as there is no putrefaction, but immediate intervention by all possible means, *without violence* as soon as there is any sign of decomposition. Extract the placenta in whole or in part, use the spoon forceps and antiseptic injections, for if you do not extract the placenta the woman is dead. In the second case, the placenta is living, there is no odor, wait, and prepare in advance for the hæmorrhage which may run to a fatal termination; prepare your tampons and instruct some one how to act in case of sudden hæmorrhage while waiting the coming of the physician. This is what is necessary for you to do, but what you *must not do* is to give ergot when there is anything in the uterus, under the penalty of committing an assassination, of killing the woman. For you kill her as truly as though you had used a pistol. When, on the contrary, the uterus is empty, and there is a hæmorrhage, you can use ergot; it is permissible under those circumstances. U.

325. Fifteen drops of fluid extract of gelsemium in half a glass of water taken in doses of a teaspoonful every fifteen or twenty minutes for an hour or two, will often relieve severe after-pains.

326. ERGOT: Is it Indicated During Labor or Abortion. DR. H. STAPFER in *L'union Medicale* (concluded).—With a lack of progression on the part of the fœtus, two cases may inspire and have often

inspired the physician with the unhappy idea of giving ergot, they are hæmorrhage and retention of the placenta. How should one act in these cases? *A.—Hæmorrhage. This may occur during labor, during delivery, after delivery. A hæmorrhage during labor.*—The detachment of the placenta is the usual cause. When the loss is sufficient to endanger the life of the mother, it is important to arrest it, to do which the practitioner has two means at his disposal.

I. The rupture of the membranes (Mauriceau et Puzos), which has for its object the prevention of the separation of the cotyledons, which will be no longer drawn apart, by the tension of the bag of waters, at each contraction.

II. The tampon.—To make a good tampon, there are necessary 500 grammes of a fatty, antiseptic material and 500 grammes of charpie, or better two leaves of fine batting. The latter has not the doubtful origin of the charpie and is more readily procured. All physicians in the country should have with them, batting, borated vaseline and an antiseptic mother liquor of the sublimate or bin-iodide of mercury. Here is the formulæ that we employ:—Bin-iodide of mercury 5 grammes, iodide of potassium 10 grammes, distilled water 200 grammes. With a half a soup ladleful of this mixture, in a litre of water, the physician can prepare on the field an antiseptic solution which will serve to disinfect the hands and to make all necessary washes and injections. The vaseline plays the part of an excellent fatty body because it remains unaltered—the boracic acid with which it is incorporated is an antiseptic less energetic than the salts of mercury, but has the great advantage of altering less from the contact of organic matter, and above all it does not irritate the parts with which it comes in contact. For a tampon is always irritating; and it is important not to incorporate with it a substance which will render it still more so. The boracic acid is employed in the proportion of 3 grammes to 100 grammes of the glycerine. Having decided on tamponing, prepare twenty-five to thirty little balls of wadding, about the size of a walnut, and make a solid thread of them about thirty centimetres in length. The remaining balls necessary may be made during the operation, and introduced without threading upon the others. It will require from fifty to sixty more. The operator (this goes without saying) will not touch the patient without having carefully washed his hands in a litre of the antiseptic fluid which he has made from the mother liquor. This is the manner of applying the tampon:—

A Speculum is not necessary.—The rectum and bladder being empty, the latter if necessary being emptied with a catheter rendered antiseptic, the woman will be put to bed and the vagina thoroughly irrigated with the antiseptic fluid. Two fingers will be introduced into the vagina and placed back of the neck of the uterus, then with the index finger of the other hand, the first ball of wadding arranged upon the string is pressed to the bottom

of the vagina, a second and then a third will follow. These will be placed as well as possible in the cul-de-sacs, as quickly as possible the threads will be twisted together and raised toward one of the groins, so that it will not be intricate. The balls not threaded will then be pressed to the bottom. The vagina will be filled and the tampons rammed down until the perinæum is distended as if the head of the fœtus was presenting at the vulva. *Each ball before being introduced will be soaked and kneaded in the boracic vaseline to the consistency of a soft paste. The tampon is a cemented wall of which the balls of wadding are the stones and the vaseline the cement. If the stones or the cement are not perfect, the blood will filter through.* A T bandage is indispensable, to solidly fix and hold the batting. The verticle bar will maintain the tampon, which without it would be expelled. The horizontal bar will be tightly drawn, if the membrane has been previously broken without success; it will hinder the accumulation of blood in the uterus. The tampon should be allowed to remain until the patient has had time to recover, with the aid of brandy, champagne, raw eggs, a sufficient amount of blood to support a new loss without immediate danger. The time should not exceed eight to ten hours. The tampon removed, a second, or a third may be put in place.

b.—Hæmorrhage during delivery.—Seize the cord in one hand, rawing it tightly, and follow with the other hand this thread of “Ariadne” which will surely guide to the internal orifice contracted like the breech of a chicken. Then let go of the cord, and grasp through the walls of the abdomen, the fundus of the uterus and press downward. Pass the hand into the uterus, seize and detach the placenta.

c.—Hæmorrhage after delivery.—The uterus is soft, therefore the blood does not come from a vaginal vessel or from a lacerated neck. The clots accumulate in the vagina and uterus and paralyze it more and more. Introduce the hand and remove the clots, at the same time give ergot; *but if you have the conveniences necessary give in preference intra-uterine injections of water at 95° to 105°. They will cause energetic contractions without tetanization.*

2. Retention of the placenta.—If the placenta is engaged in the neck of the uterus, make constant antiseptic injections of water at 95° and take care to keep traction upon the part engaged. If the placenta remains entire in the uterus, introduce the hand before the orifice is firmly closed, and extract it. The opening closes slowly, if the uterus is partially paralyzed by a prolonged labor, is torpid. Allow it to rest, and watch the orifice. It closes quickly if the uterus is irritated against an adherent placenta, and contracts violently to expel the foreign body. It is rare, happily, but the worst of all. It is necessary to detach with the ends of the fingers, the adhesions; and substitute for the clean wound of a physiological detachment, a contused wound. A dangerous operation in consequence, but not a fatal one, while the

retention of the placenta is more often equivalent to a condemnation to death. B. a.—*Abortion. Embryonic.* It is an abortion at two or three months. It is often at the first onset very bloody. Absolute repose, head low. Do not give ergot, either in large nor in small doses. Armed expectation. The egg is not fatally doomed to expulsion, it may continue to live. Give the woman a spoonful of champagne, or brandy and water every fifteen minutes, inject into the vagina, if the abortion is inevitable, hot water (95° to 110° maximum) continuously. Less active than uterine injections, they will act now. At need, tampon with a tampon less voluminous than the one described, but of the same description, without per-chloride of iron.

b. *Fœtal.*—Abortion of the fourth to fifth months. This is frequently made in two times or movements. The fœtus is first expelled. The placenta remains in the uterus, for hours, weeks or months. In the latter case it is adherent and *lives like the mistletoe on the oak*, a parasite. Do not touch it. When it comes away a hemorrhage will occur. Same treatment as in the earlier stage and wait. In the case of the retention of the placenta at full term, extraction is the rule. In the case of retention at four or five months, the non-extraction is the rule, because in the latter case, the uterine orifice is softened and opens again by a new labor (this explains the expression, abortion in two times). If the orifice is slow to soften and if the placenta putrefies, make intra-uterine injections. We hope this article will be read with profit by those who give ergot at the wrong time, but Professor Paget was called at one time by a physician, to a woman in confinement where the placenta was retained. Ergot had been given. The woman died. Six months later the same professor was called by the same physician for a similar case. Same result. We hear numerous denials made; one has given ergot in such a case or in such other and they have succeeded. It has hastened labor, arrested hæmorrhage without causing retention of the placenta, it has aided expulsion in many cases. That may be true, but of *what value is it if from its use the other women are dead.* We have seen children of seven pounds pass in two hours through a pelvis of seven centimetres. Is it necessary therefore to advise those who have such a pelvis to await with confidence the full term of pregnancy. No. In good practice one should not adventure it, and "one swallow does not make a summer." In conclusion *never give ergot during accouchement or abortion. In case of hæmorrhage we may give it if the uterus is empty*, but if we have the conveniences and the experience necessary it is preferable to make the injections of antiseptic water at a temperature of 95° to 104° (maximum). We have promised an explanation upon that point; here it is: we can never be certain that the uterus is entirely empty, and it is not rare to see, after the administration of ergot in such a case septicæmia more or less grave, more or less persistent. We have already, for our part, made many such observations. U.

327. IRRIGATION, Continued, as a Prophylactic and Curative Treatment in Puerperal Affection.—Antiseptic injections, intra-vaginal and intra-uterine, are universally employed to-day, at least I hope so, in the treatment, prophylactic and curative, of puerperal affections; the good results which have been attained are undeniable. Thanks to them, we can obtain, even in the service of the *Maternités*, a series of successes absolutely unknown until within the last few years. This is not less so in the dangerous and fatal cases, and it is to be noticed that these cases were almost exclusively among those who had been confined in the city and who had been received into the hospital with marked symptoms of infection present. In the statistics of his service in the hospital *Lariboisière*, M. Pinard shows that the four patients who died from puerperal infection had had labor or abortion commenced or finished before their entrance into the hospital. In these cases the intermittent intra-vaginal or intra-uterine are not successful in preventing or arresting the development of septicæmia, they have only a temporary action upon the organism, the fluid remains only a relatively short time in contact with utero-vaginal mucous membrane. And more, that action is only superficial, the liquid has not the time to act upon the deeper parts. If the enemy is already in place and it very often is, the quantity of antiseptic absorbed will be insufficient to pursue it into the circulation. Now, in these wounds, as sepsis as the wounds of the uterine cavity, it is not only in the traumatic centre that it is necessary to pursue the pyrogenetic germs, but also into the blood itself. It is, in consequence, necessary that a certain amount of the antiseptic should be absorbed, sufficient to produce, if not intoxication, at least the first degree of imbibition. To prevent the continuance of the septic material in the uterine cavity and the continued infection and re-infection, and at the same time to obtain a saturation of the organism with the antiseptic, M. Pinard had the idea of applying continued antiseptic irrigation to the utero-vaginal cavity of those who were already infected. Question of dose, said he, depends upon the extent, more or less great, of the penetration of the poison. The antiseptic must enter more quickly upon its work than the infection, and when it has penetrated sufficiently into the system to overcome the latter by new doses.

This is the manner of operating of our distinguished confrère. Upon an iron bedstead, furnished with a mattress of parallel metallic bands, two ordinary mattresses folded upon themselves are placed end to end in such a manner that there is an interstice in the centre of the bed between the two mattresses. Each mattress is protected by an impervious covering, the free ends of which may fall into the opening between the two mattresses and direct the liquid into a recipient placed under the bed. In this manner the invalid can repose upon the bed as upon an ordinary bed from which it does not differ except by the fissure, median and transverse. To practice the injection, M.

Pinard makes use of a long sound of silver and having a double curvature, like the sigmoid sound of Sims, flattened and presenting at its uterine extremity four openings, one on each face. The irrigating apparatus is composed of a reservoir in glass or earthenware, having a capacity of fifteen litres, and placed about eighteen inches above the level of the bed. The reservoir is attached to the sound by a rubber tube upon which is placed a valve for regulating the flow of the liquid (about fifteen litres per hour). The antiseptic fluid employed is not the same during the whole of the treatment. At first a solution of the bin-iodide of mercury is used of a strength of 1-2000th. This solution produces at the end of some hours a painful sensation difficult to endure, when it is replaced by a solution of phenic acid in proportion 1-100th. This is continued until the temperature becomes normal or the urine becomes black at the time of emission—it may even be continued for three days longer without inconvenience. Later a saturated solution of boric acid is substituted for the phenic acid. All these liquids are used at a temperature varying from 95° to 104° Fahr.; in this manner the contractility of the uterus is constantly stimulated, the sensation produced is agreeable, the cooling effect is beyond question. Continued irrigation has been employed in sixteen cases: four times as a prophylactic after a difficult labor which had been completed in the hospital, but after labor had commenced and examinations had been made without antiseptic precautions, in the city; twelve times with the object of curing an infection already declared. The result has been eleven cures and five deaths. The physician in charge of *Lariboisière* says that continued irrigation does not distress those upon whom it is used, that when the bed is properly made, it may be continued without inconvenience during one, or two weeks, and even longer. It being admitted that continued irrigation is practicable and exempt from danger, logic, the current ideas upon the cause of puerperal septicæmia, the review of his observations seems to prove that it should, in the grave cases, give all the results that would attend temporary irrigation, with the added superiority that they are permanent. The idea has been launched, it will not miss making its way.

U.

328. INCOMPLETE Abortion, On the Management of.—DR. A. W. EDIS in the *Brit. Medical Jour.*—The subject of incomplete abortion, or imperfect expulsion of the whole of the ovum, cannot fail to prove of interest to all who have to deal with the emergencies of general practice. The risk to the patient, whether from primary hæmorrhage or from septicæmia, is often very great; a fatal issue is by no means unfrequent, and even where this does not result, the general health may become seriously affected from the prolonged hæmorrhage, septic absorption, or uterine disorder ensuing in consequence. Apart from this, the anxiety experienced by the practitioner—the risk of his reputation suffering, even should he escape prosecu-

tion for malpractice—renders the subject one of unusual importance, and, therefore, well worthy of consideration.

The consequences of incomplete abortion are far more serious than at first might be imagined. Many a young life has been prematurely cut short, the hopes of maternity blighted, or prolonged uterine trouble induced, in consequence of an early miscarriage, within a few months of the commencement of married life, not having been properly managed.

It will be beyond the scope of the present communication to allude even to the causation, symptoms, diagnosis, prophylaxis, or treatment of abortion generally. My remarks will be confined solely to the management of incomplete abortion, where the ovisac has ruptured, the embryo been expelled only in part—the placenta, either entire or in fragments, being retained in utero, and giving rise to hæmorrhage or septicæmia in consequence.

The principle of early and complete evacuation of the contents of the uterus, where the vitality of the ovum has been destroyed, and abortion is inevitable, although generally accepted by everyone competent to give an opinion, is yet too often neglected in actual practice, and leads to the most calamitous results. The following cases will illustrate this :

M. T., aged 27, single. When first seen in consultation with her medical man, who had only been called in a few days previously, I found her lying in bed, on her back, with the knees drawn up, the abdomen, tympanitic, very tender on the least pressure. The pulse was 144, very feeble; temperature 103.2° Fahr. The tongue was thickly coated, red at the edges, and inclined to be dry. She was delirious at times, but could be roused to answer questions. There was persistent fetid diarrhoea, constant sickness, and much pain complained of all over the abdomen. On vaginal examination, a sanious sanguineous discharge was found exuding from the os uteri, which was somewhat patulous. The uterus was enlarged, fairly mobile, retroverted. Thus far, no history had been obtained explaining her symptoms. Seeing that the patient was in a most critical condition, evidently suffering from septic peritonitis, I elicited from her paramour that she had had a miscarriage, procured some ten days previously by a midwife. She had missed two periods, and came up to town for the purpose of being set right. Two days afterwards, she had severe pain and profuse hæmorrhage, but I could get no well-marked history of any substance having passed. She became very feverish, and was compelled to keep in bed. It was not until nearly a week after this that a medical man was called in, and then he was told nothing beyond that she was losing blood.

The patient was too ill to bear much interference. The uterine cavity was thoroughly irrigated with iodized water, quinine and opium administered, and every effort made to rally the patient; but she sank and died within twelve hours of my seeing her.

There can be no question that retained products of conception, decomposing within the uterus, had given life to septic peritonitis. Had these been removed, and the case properly treated from the outset, the issue would, in all probability, have been different. One can but regret that skilled assistance had not been rendered until the patient's condition precluded any active treatment from being adopted.

In nulliparæ, where, after cessation of the catamenia for one or more periods, and the ordinary signs and symptoms of pregnancy exist, pain and hæmorrhage occur, showing abortion to be inevitable, our object should be to favor the expulsion of the ovum with as little delay as possible. The insertion of a carbolized sponge-tent into the cervix uteri, for a few hours, will not only serve to check the hæmorrhage, if this be at all profuse, but also to dilate the cervix, and so facilitate the expulsion of the ovum entire. It is in these cases, owing to the undeveloped or undilatable condition of the cervix, more especially where ergot has been too freely administered, that the ovisac becomes ruptured, the embryo expelled, and chorionic villi or placenta retained.

Mere plugging the vagina with the intention of arresting hæmorrhage from the uterus is both unscientific as well as unsatisfactory, and should never be resorted to unless in severe emergencies, where either the practitioner has not the instruments at hand, or does not possess the requisite manipulative skill for passing a sponge-tent into the cervix uteri.

In such cases, small pieces of sponge wrung out of iodized or carbolized water, or other antiseptic solution, are preferable to the ordinary cotton wool or strips of linen usually employed, in that the former tend to expand, and fill up the vagina when moistened, whereas the latter shrink, and allow the hæmorrhage to continue. A vaginal tampon, in any case, should never be left in for more than a few hours without being removed.

In the event of a sponge-tent having been inserted into the cervix uteri, and the hæmorrhage arrested for the time being, the question will arise, How long shall this be left in before making efforts to empty the uterus? This will depend somewhat upon the time of the day or night when the practitioner has passed the tent, the amount of hæmorrhage which has already occurred, and other considerations. Owing to the extreme nervousness of the patient, her intolerance of any digital interference, the limited capacity of the vagina, or inability to depress the uterus, by conjoined manipulation, owing to the patient holding herself so rigidly, the administration of an anæsthetic will generally be found requisite. This should invariably be entrusted to some competent assistant, and not left to the discretion of some unqualified friend or nurse. The operator is thus free to direct his attention solely to the evacuation of the uterus, which must be done systematically and thoroughly, not partially and imperfectly, as this increases the risk of hæmorrhage and septicæmia. The time selected, there-

fore, may be regulated somewhat by the practitioner's convenience ; if the tent be inserted late at night, opium may be given to allay pain and secure rest, and the operation fixed for the following morning.

A sponge-tent should never be left in above twelve hours; and when removed, iodized or carbolized water should be freely injected into the vagina before attempting any further manipulation. If the cervix be already sufficiently patulous to admit the finger, or hæmorrhage is not an urgent symptom, the insertion into the cervix uteri of a sponge-tent is uncalled for.

Having first seen that the bladder is empty, the patient should be placed close to the edge of the bed, in the dorsal or left lateral decubitus, as may seem most convenient to the individual practitioner. With one hand placed over the lower abdomen, the fundus uteri is then depressed, so as to enable the forefinger of the other hand to pass entirely into the uterus, when, if possible, the whole of the remaining ovum is swept out of the uterus. If this cannot be accomplished, the portion of placenta within reach must first be detached and removed ; the uterus then generally contracts sufficiently to bring the remainder of the placenta within reach, when the finger is again employed to sweep it out, or scrape it off from the uterine wall.

Firm pressure should be employed from above, and the finger should not be withdrawn until the uterus is felt to contract, so as to avoid the formation of clots in the interior.

It is well to inject hot iodized water at 110° or 120° Fahr. through a metal tube or elastic catheter into the uterine cavity, to wash out any placental *débris*, and also to check further hæmorrhage, should this be troublesome. A binder should then be applied to the abdomen, as after ordinary labor, ergot administered, and the usual precautions taken to promote convalescence.

In practice, it will, however, often be found difficult, if not impossible to determine whether the whole of the placenta has been expelled, and it is in these cases that danger arises, whether from recurrence of hæmorrhage, or from symptoms of septic absorption. If any doubt exist, it is better to explore carefully the cavity of the uterus. Denman long ago pointed out the fact that, where any portion of the placenta remains *in utero*, the cervix does not contract thoroughly, but remains more or less patulous. If symptoms of septicæmia have already declared themselves, it may be unwise to insert a sponge-tent. If any difficulty be experienced in passing the finger sufficiently far up into the uterus to allow of placental *débris* being removed, the ovum forceps will here prove of much service. Having inserted them well into the uterus, the handles are separated gently, and any projecting portion of the placenta seized and removed, the operation being repeated in a different direction until the whole of the contents have been secured. Where the uterus remains unusually bulky, hæmorrhage recurs on the patient rising, or persists unduly long after the

supposed miscarriage, or where the lochia are distinctly offensive in character, we may be pretty certain that the uterus is not yet empty. In place of contenting ourselves with the administration of ergot, our plain duty is to explore the cavity of the uterus. Instances have been recorded where portions of placenta have been extracted many months, and even years, after the miscarriage happened, no effort having been made to remove the cause, the symptom alone being treated.

The narration of a case of this nature may prove of interest as exemplifying practically the treatment indicated.

M. C., aged 40, had been married three years, up to which time she enjoyed most excellent health. She had a miscarriage six months after marriage, at the end of the second month, from which she recovered perfectly. Six months later a second miscarriage took place, and since then she has never been thoroughly well. The periods, at first, were rather prolonged, but not irregular. About Christmas, 1884, serious hæmorrhage took place, and since that date hæmorrhage had been more or less constant, absent for a week or two, then suddenly beginning again. In November, 1885, she stated that she was subject to bursts of hæmorrhage every two or three days, with watery discharge in the intervals. There was no pain at any time of any moment.

On examination, the uterus was found to be bulky, fairly normal in position, mobile, the uterine sound passing upwards and forwards three inches. The cervical canal was somewhat granular, and there was much glairy mucous discharge, but not offensive. The cervix uteri was dilated by means of laminaria tents. Ether was administered, and the interior of the uterus explored. Several portions of hypertrophied mucous membrane were scraped off with the curette, together with some small nodular masses. Linimentum iodi was freely applied to the uterine cavity, which was then syringed out, and ergot administered every four hours. There was no return of hæmorrhage after this until about a fortnight subsequently, when the regular catamenial period came on, and lasted six days. The patient left for the country a month after her admission. Two months later, the husband wrote to me, saying, "There has not been the slightest hæmorrhage of any kind so far, nor has there been any return of the period." There can be little doubt, I think, that the removal of some placental *débris*, together with some hypertrophied mucous membrane, constituting the so-called fungus endometritis, served effectually to arrest hæmorrhage, and thus cure the patient.

In some cases, where the placenta is very adherent, and cannot readily be removed by the fingers or forceps, the blunt curette may be employed to scrape the surface, so as to remove all *débris*. This method is more often indicated in those cases where a portion of the placenta has been retained for many weeks or months after the incomplete miscarriage has taken place, and where a species of fungus or villous endometritis has been set up.

Syringing out the cavity of the uterus with hot iodized or carbolized water, at 110° to 120° Fahr., so as to remove all *débris*, where removal has been difficult, or where hæmorrhage is free, often proves of much service in lessening the risk of septicæmia. This may be repeated morning and evening for some few days, if deemed requisite. Swabbing out the cavity of the uterus with liq. ferri perchlor. or linimentum iodi, where the discharge has been very offensive, or the placenta very decomposed, is indicated in some cases, but should not be resorted to as a routine-practice.

It is of great importance to keep the patient quiet in bed for at least a week or ten days, apply a binder firmly to the abdomen, as after ordinary labor, and resort to vaginal injections. If the lochia become in the least unpleasant or offensive, intra-uterine injections should be employed. Ergot and cinchona may be administered, with advantage, in most cases.

The administration of ergot is not an unmixed blessing. Where uterine action has already set in, ergot intensifies this action unquestionably; but if only a portion of the ovum be expelled, ergot tends to produce such an amount of contraction of the cervix uteri as to preclude further attempts at removal of the remainder. We may have to wait several hours until the influence of the ergot has passed off, before being able to insert the fingers or forceps to complete the delivery of the placenta. If hæmorrhage be severe, ergot is, of course, indicated, and must be given; but, when the hæmorrhage has ceased, it may be well to refrain from further administration of the drug until complete removal of the placenta has been effected, when its employment may again be persisted in. Where we have reason to believe that the whole of the placenta has not been expelled, and the hæmorrhage continues, or recurs on the least exertion, and ergot fails in enabling the uterus to throw off the retained portion, its employment should be discontinued, and proper means adopted to extract the remainder of the placenta.

I have seen instances where ergot had been given freely and continuously for several successive weeks or months, without the desired effect being produced. This illustrates the abuse, not the rational use, of the drug, and cannot be too strongly condemned.

It is with the hope of directing special attention to the absolute necessity of removing all placental *débris*, in these cases of incomplete abortion, that I have thought it worth while to occupy your time and attention on this occasion, and if I have succeeded in this, my object will have been fulfilled.

Pædiatrics.

329. RÖTHELN, *Contribution toward the Natural History of*.—REGINALD JOHN RYLE in the *Brit. Med. Jour.*—In the chapter on Røtheln contained in his fine work on *Medicine*, the late Dr. Faggeurges the discrepancies of statement which occur, even in modern writings, “concerning the supposed third exanthem” as an argument against the view that the disease is distinct from measles. He points out that Trousseau insists on the absence of catarrh during the prodromal stage, while Thomas insists on its presence; that Thomas makes the duration of this stage (if not absent altogether) two to twelve hours, and Trousseau one to four days; that Trousseau and Vogel make the rash give rise to intense itching, while Thomas declares this to be seldom the case.

The following condensed record of two cases, in which, in spite of considerable differences in the symptoms, there could be no reasonable doubt that the patients were sufferers from the same disease, may be of interest as showing that the force of objections based on such discrepancies may easily be overrated.

CASE 1.—On February 24th, I was called to see a young lady who had that afternoon found a rash upon her skin. There was a clear history of a previous attack of measles some years ago. Before February 24th, there had been no recent headache, sore-throat, or coryza. The patient had spent the day in sight-seeing, denied any sense of illness whatever, and was only anxious for medical advice from a fear that the rash “might mean something infectious.” When first seen at 11 P.M., the rash referred to was found to be most abundantly developed over the prominent parts of the cheeks. The forehead was less thickly covered, and the region nearest the roots of the hair almost free from it. The rash consisted of small spots, distinctly raised, and with but little surrounding areola. They were nowhere confluent, of a pale rose color, with the intervening skin generally clear, only somewhat flushed where spots were most abundant. There was no fullness about the eyelids, and a complete absence of the blotchy, puffy appearance of measles. The spots were very numerous about the neck and shoulders, and more thinly scattered about the arms. There was diffused redness of the soft palate and pillars of the fauces, and little or no enlargement of the tonsils. There was a slightly enlarged gland each side at the angle of the jaw. The glands in the posterior triangle and the suboccipital glands were enlarged on each side. The pulse was 80, and the temperature 99.4°. After two or three days, during which the temperature was normal, and no sign

of ill-health showed itself, the patient began to experience some soreness of throat, together with a frequent hacking cough. These symptoms lasted a few days only. The glands in the neck became slightly tender, and then subsided, and in ten days from the appearance of the rash were no longer recognizable. No desquamation was seen at any time.

CASE 11.—The elder sister of the above was said not to have had measles. On February 24th, this patient was living with her sister, and had, in fact, been sharing her bed. That night, however, she slept elsewhere, and next day left the house for a visit to some friends at a distance. On March 11th, she returned to her sister's lodgings. Both on this day and the next she felt unwell, and complained of slight sore-throat and headache. On March 14th, she noticed some lumps at the sides of the neck; and, on March 16th, a rash appeared on her face, which closely resembled the rash which her sister had had. On this day (March 14th), the temperature was 100° , and the tongue clean. Moreover, the patient had now no coryza, sore-throat, headache, or sense of illness. For the next five or six days there was some tenderness of the glands in the neck, a troublesome sense of itching and pricking in the skin, and a slight dry cough. The temperature generally was about 99° . At the end of this period, however, the temperature rose, the patient felt languid and chilly, the cough became incessant, though unaccompanied by any expectoration, and the throat became very sore. Thus, on March 24th, the palate, tonsils, and pillars of the fauces were bright red and swollen; the gums, also, were red, and the teeth tender to bite upon. The tongue was red at the tip, and much furred posteriorly. The patient could only swallow with difficulty, and complained of headache, sleeplessness, and pains all over. In addition to the chain of enlarged cervical glands and suboccipital glands, there was found to be an enlarged and somewhat tender gland in each axilla. Some desquamation was seen, for the first time, about the upper lip and sides of the nose; and, at the same time, a fresh rash was developed upon the neck, chest, and shoulders. This rash was a pale rose-colored blush, distributed in irregular patches, of varying shape and size, with smaller areas of normal skin here and there mixed with it. There was also soreness of the eyes and photophobia, but no reddening of the conjunctiva. The temperature was 102.4° . With the above symptoms, the case was not unlike one of scarlatina; but such a diagnosis would, of course, not have been compatible with the previous course of the illness, nor with the already present desquamation, nor, perhaps, with the comparatively low temperature accompanying the severe sore-throat. The condition of the throat was at its worst about March 24th, and by March 27th the severer symptoms were subsiding. The progress of the recovery was somewhat delayed by a slight attack of pleurisy on the right side, which first showed itself when the sore throat was beginning to subside, and which occasioned a slight rise of tempera-

ture for some days after the fauces had resumed their normal state.

REMARKS.—It will be remarked that there was a history of previous measles in the first of these two cases, but not in the second. Accordingly, it may be suggested that the disease was, in reality, measles in both cases, and that greater severity of the attack in the second case was due to the lack of protection by a previous infection. But to this view there are two objections. In the first place, all the most significant and characteristic features of measles were no less conspicuously absent from the unprotected second case than they were from the first, and the circumstances which made the illness a severe one in the second case were not among the more typical features of measles. In the second place, both cases—and the second no less than the first—had certain characters unlike those of measles. Thus, in each case, there was a rash which differed from that of measles in its color, its local distribution, and other characters; in each case, the affection of the lymphatic glands was remarkable for (*a*) its early appearance (unconnected with the condition of the throat; (*b*) the site of the glands attacked, the suboccipital and glands of the posterior triangle being especially involved; (*c*) the symmetrical character of the glandular affection; and, in each case, the first substantial complaint of sore-throat came when the rash had almost gone.

In short, the clinical history of these two cases in the main resembles that which Dr. Tonge Smith gave in the *Lancet* for 1884, as representing his experience at the London Fever Hospital of 156 cases, which were diagnosed as cases of rōtheln.

If then we may regard the cases as examples of rōtheln, it is interesting to note the points in which their clinical histories differ, for they are among the "discrepancies" referred to in Dr. Fagge's criticism.

1. The first patient denied even the slightest malaise up to the time when the rash first appeared, while the second suffered from four or five days of "prodromal" illness, at the end of an incubation-period of about a fortnight.

2. The first experienced no sense of irritation of the skin, while the second made complaint of itching and pricking for several days after the rash first disappeared.

3. In the first case the sore-throat was of the mildest type, while in the second it resembled the sore-throat of a patient with scarlatina in its appearance and severity.

4. In the first case there was no noticeable desquamation, while in the second it was obvious enough to be noticed both by the patient and her friends.

330. INFECTIOUSNESS, Extreme Duration of, in Measles, Mumps, Small-pox, Scarlatina, and Diphtheria.—DR. THOS. F. RAVEN,

in the British Medical Journal.—Those who have made a study of the natural history of infectious diseases, have established the truth of these conclusions :—that diseases preceded by a long incubation are, generally, characterized by well-defined illness, progressing by well marked stages to crisis, and so ending ; that they are followed by insignificant sequelæ, and that the infection is usually short in its duration. A short incubation period, on the other hand, has been shown to precede, as a rule, a sudden sharp illness, running either a short or a long course, with a long continued infective power, having sequelæ of a definite and important character, and being often prolonged by relapses. So it may be regarded as an axiom that duration of incubation and duration of infection bear an inverse ratio to each other. Again, it is laid down and accepted that, when the incubation of a disease is long, the infection (even the most powerful infection) is developed early in the course of the malady, and that it ceases early ; that, when the incubation period is short, the disease does not, as a rule, exhibit its infective power so soon, but that there is a time, even after the complaint is declared, when the danger of communication is but small. The rule, then, is, long incubation, early short-lived infection ; short incubation, late and long infection ; and, if exceptions prove the rule, then undoubtedly this is a rule, for the variations from it are numerous.

These variations from the standard may be well exemplified by the course of vaccinia. Although the progress of the vaccine vesicle has a remarkable regularity, yet deviation from the recognized period of incubation, and from the usual course and duration of events, is not unfrequent even among infants vaccinated from the same source and under similar conditions.

Applying this rule, then, to the first of these diseases to be discussed, we find that measles, having a long and fairly uniform incubation period of twelve days or a fortnight, develops its infection early—even early in the stage of invasion—and that the infection, thus early active, early disappears. According to a code of rules issued by the medical officers of schools, a pupil is allowed to rejoin his fellows in three weeks from the date of the measles rash. Dr. William Squire also states that the duration of personal infection is limited to three weeks after the appearance of the rash, provided all desquamation and catarrh have ceased. The early infection of measles points to the strong probability that catarrh is the principal source of danger to others ; and it is not necessary to occupy time with proofs of what, probably, everybody will admit.

The catarrh being thus intensely infectious, even at an early stage, possibly at a later period it may still be dangerous. Therefore, when, after measles, catarrh from any mucous surface persists, it is wise to consider the possibility of its being a source of communication of the disease. But, granted the cessation of catarrh, and the disappearance of rash and desquamation, I am inclined to think, from general

experience, but not speaking from any definite data, that the danger of infection is over. Three weeks from the appearance of the rash seems to me to be, in ordinary cases, an unnecessarily long time to keep a child in quarantine. From the initiatory fever to the cessation of desquamation, the disease very often runs its course in a fortnight, and it is doubted by some whether the stage of desquamation is one of infection at all.

But a curious freak which measles occasionally plays, may serve to prolong the infection. I have seen the two prominent symptoms—catarrh and rash—quite disconnected. I have recently had under observation a little boy who, ten days or a fortnight after exposure to the infection of measles, showed what were thought to be the early symptoms of the disease; but nothing besides catarrh appeared, and he was soon quite well again. A few days later, however, a well-marked rash, limited to the arms and legs, showed itself. The child seemed scarcely ill, and there was no catarrh whatever. This limitation of the rash led me to examine it with care before I could pronounce it to be the eruption of measles; but the distinctive raspberry color, and the typical grouping of the spots into crescentic patches, left no doubt as to its nature. Once previously I have witnessed this curious course of the disease. It may be that what is described and accepted as *rubeola sine catarrho* is of this nature, the early catarrh having been overlooked or forgotten before the appearance of the eruption. If so, *rubeola post catarrhum* would be a more exact term by which to designate it.

Mumps has also a long incubation period. It may last from fourteen to twenty-one days, or, as the longest period on record, twenty-two days; and, following the rule of infectious disease already alluded to, mumps is very early infectious. So soon is the infection felt, that the removal of a case, although effected as soon as ever the disease is even suspected, rarely saves a family or a school from the spread of the disease. Mumps, also, like measles, is not communicable for long. According to authorities, the quarantine necessary is three weeks from the commencement of glandular swelling, provided the glands have resumed their natural size and condition. It will, perhaps, be possible to ascertain whether, independently of all glandular swelling and hardness, mumps is an infectious disease; also, when metastasis occurs to another organ, as the testis or mamma, whether the duration of the infection is thereby prolonged: and if, when abscess forms, the stage of discharge is one fraught with danger to others.

The incubation period of small-pox is, perhaps, more definitely established and more uniform than that of any other acute disease—certainly than that of any of the diseases under notice. It is a long period of twelve days, and, although exceptions are sometimes met with, it is but little liable to variation. In some respects, small-pox follows the same rule as measles, in so far as having a long incubation period, the infection is early active. According to Marson, whose

experience was immense, small-pox is communicable from the moment that the initiatory fever begins. He says: "It may be given by the breath of the patient before the eruption appears on the surface of the body." The termination of the infection in small-pox is indefinite. So soon as the crusts, scabs, and scales have separated, and have left a smooth surface, the fear of infection is over. My own experience fully coincides with this statement. During a severe and extensive epidemic of small-pox, I adhered strictly to this view; and in no instance did the disease obtain a fresh hold from any patient who was discharged from hospital, however short his sojourn there might have been. There is, however, a source of fallacy here, which is worth mention. It must be remembered that, when small-pox is rife, most people (especially the anti-vaccinators) make haste to protect themselves by vaccination. Hence, although the progress of the disease may be arrested, as happened in the epidemic to which I have alluded, it is possible that this desirable end is attained simply because there are no persons at hand susceptible of the disease. I have said that the termination of infection in small-pox is definite; but it does not follow that the period of infection is short. In this particular, small-pox breaks away from the rule of "long incubation—early short infection." The incubation is long, the infection is early developed; but it cannot be said that the infection is short lived. I am well aware that, in many cases of small-pox, crusts and scabs and scales are soon detached, and the patient at liberty. But these are, generally, cases of small-pox occurring in vaccinated persons. True, unmodified small-pox, occurring in unvaccinated persons, is, as I take it, the disease which we are considering, and in such cases, when they do get well, the crusts and scabs adhere sometimes for a surprisingly long time; and as it is known that the crusts of small-pox, even when detached from the body, have the power of disseminating the disease, it is quite certain that any one, with a crust or scab or scale still adhering to his skin, is capable of communicating the disease. Independently of the pustular eruption, and of the crusts resulting from it, I have found small-pox to exert a powerful infection from those frightful examples, of the malignant form, where no pustular rash appears, but where hæmorrhage occurs in the skin, and blood pours from almost every outlet of the body.

I come now to two diseases in which the incubation period is variable and doubtful, namely, scarlatina and diphtheria. Scarlatina is said to have, generally, a short, often a variable, period of incubation. The occasional rapidity of its development is unquestionable, and sometimes quite surprising. I have seen a child exhibit the rash after twelve hours' exposure to infection. I have been told on excellent authority, of a child who went into a shop where there was an intense scarlatina poison present. The child was sick on the spot, and went home ill, the disease developing from that moment. And if the incubation period varies so remarkably in this direction, it is reason-

able to suppose that it may present a great divergence on the opposite side. The scarlatina that develops itself with great suddenness after excitement or change of air, may spring from a latent poison in the system suddenly called into activity by shock or by excitement. It is, however, generally agreed that the incubation, as a rule, is short, and, accordingly, the infection does not become active very early. This has been abundantly clear to me on many occasions. Over and over again I have caused patients, with the rash of scarlatina well developed, to be removed from crowded lodging-houses, schools, and private families, without the occurrence of a second case; but if the infection does not soon become active, there is no doubt that it long persists. The rule generally observed with regard to scarlet fever is that, when six weeks have elapsed since the appearance of the rash, and provided that there be no desquamation in progress, and that discharges from the nostril have ceased, quarantine may be discontinued.

Desquamation of the cuticle is looked upon as a fertile source of danger: not only that separation of fine powder from the surface which appears shortly after the disappearance of the rash, and which is believed to possess the poison of the disease in its most concentrated form, but also that late desquamation, which especially affects the hands and feet, and which occurs not only once, but is sometimes repeated after the skin has regained its natural smoothness. Great stress, I say, is laid upon the peeling of the skin; but I have never heard any fear expressed in reference to desquamation originating in other parts of the body. Scarlatinal nephritis is often a lengthened, or may even become a chronic affection; and it may fairly be assumed that the desquamation of epithelium from the kidneys and bladder may be a process of the disease capable of conveying infection. So long as the epithelial scales are suspended in the urine, there may be no risk of infection from their presence; but should the urine containing them escape among the sheets, or be spilt on a carpet or on a floor, so soon as it has dried, and the epithelial scales have become freed from their menstruum, a danger of infection may at once be set up. Or the infective material may hang about drains or in cesspools, and exert its influence long after the epidemic by which it was engendered has disappeared. (Hence the importance of employing an earth-system for all excreta in scarlet fever.) And, occasionally, I believe, a hidden source of danger does thus exist, and of this I will give an example.

Some time ago, I was called to see a young lady who was said to be suffering from anæmia and febrile disturbance of some indefinite kind. I found that her urine was loaded with albumen, and microscopic examination revealed large quantities of epithelium and blood. The desquamation was so marked that inquiry was at once made as to whether she had recently suffered from scarlet fever, or any other acnte disease, but no history of this could be obtained. There could,

however, be little doubt as to the nature of the girl's nephritis, when it was found that one of her sisters had recently had scarlet fever, and that she also was suffering from desquamative nephritis; and this opinion was strengthened into certainty when I found that her two other sisters, neither of whom had shown any signs of illness recently, were also throwing off epithelium and blood from the kidneys. The mother and the one brother were the only members of the family who were free from albuminuria, and this was explained by their having had scarlet fever some years previously. I ascertained, many months afterwards, that albumen still persisted in the case of the girl who was first placed under my care; and that, with the other three cases, the affection had proved very tedious. Dr. Wm. Squire has recorded a case where, after sixty-six days from the appearance of the rash, and long after all signs of illness had disappeared, scarlet fever was communicated; and, as no mention is made in this case of the state of the urine, it occurs to me, as a possibility, that the infection might have been effected in the way that I have suggested.

Not only is desquamation of the skin a source of danger during convalescence, but the discharges from the nostrils, in severe cases, are believed to be highly infectious, and are to be as carefully observed as desquamation itself. As to the purulent discharge from the ears, which sometimes follows a sloughing throat in scarlet fever, it seems difficult to assign an exact limit to its power of conveying infection.

Diphtheria is the last disease of the category to the infection of which I have to advert. And here I am met at once by the question, What is diphtheria? When we find, on the one hand, physicians who draw distinctions between diphtheria, croupous pharyngitis, membranous sore-throat, follicular tonsillitis, and exudative catarrh of the tonsils; and when we know that, on the other hand, there are authorities who pronounce all sore-throats with exudation to be diphtheritic (but who are rather puzzled by follicular tonsillitis); and when, thirdly, we ascertain that diphtheria may occur without inflammation of or deposit upon any mucous membrane whatever, it is not clear what the evidences are upon which a diagnosis of this disease is to be founded. For my own part, as to this point, I confess to some agnosticism, with an inclination to characterize all sore-throats with exudation (with the exception of follicular tonsillitis, dis-associated from known cases of diphtheria), as diphtheritic; and this makes a good working hypothesis. But I throw out this hint that we may, as far as possible, prevent any conclusions that we may come to from being vitiated by imputed false diagnosis. The incubation-period of diphtheria, according to the authority of Mr. Shirley Murphy, is unknown. However short it may occasionally be proved to be, it is sometimes, undoubtedly, of long duration. I have myself seen a child, removed from home in order to avoid the infection, remain free from the disease for a week. Dr. Isambard Owen has instanced a remarkable ex-

ample of the occasional long duration of diphtheria-incubation in the case of a man who, having imbibed the poison of the disease on shore, went to sea, and the resulting illness was not felt until several weeks later.

The personal infection of diphtheria would seem to be actively exerted on those who are in close attendance upon victims of the disease, whereas its influence does not commonly spread to others in the same certain way as does the infection of measles, small-pox and other zymotic diseases. Undoubtedly diphtheria is often seen affecting many members of a household in quick succession, but in such epidemics I have hitherto found that there are general conditions existing to give origin to the disease, and that it is not often easy to prove its personal communication. It is worthy of note that the last generation of practitioners did not regard "croup" as a communicable disease. Sir Thomas Watson, in describing membranous laryngitis, a disease which he allows to be very fatal, distinctly says that, "the croup is not contagious."

As to the persistence of the infection of diphtheria, it would appear to be generally held that its duration is not great. The medical officers of Schools Association have determined that a patient, convalescent from diphtheria, may be considered harmless in three weeks from the date of symptoms, provided there be no longer any sore throat, or discharge from mucous surface, or albuminuria. Under certain circumstances, however, the infection may be indefinitely prolonged.

Dr. Astley Gresswell has recently drawn attention to what he designates "chronic diphtheria." As his communication to the Epidemiological Society has been so lately before the public, it is not necessary to say more than that he has submitted a theory, with substantial proofs to support it, that diphtheria, under certain conditions (chiefly the conditions of unwholesome surroundings) may become a chronic disease, and capable, from time to time, of diffusing the infection.

If, during the sequelæ of other diseases, infection is still active, it is reasonable to suppose that a patient suffering from diphtheritic paralysis, but otherwise well, may infect others. A suggestive case in point has occurred within my own knowledge. A family of children had diphtheria in London. All were affected except one boy. The family came to the seaside, and after many weeks the boy who had escaped, and who had been sent away from home, was allowed to join his brothers and sisters, one of whom was suffering from diphtheritic paralysis. Before he had been many days with his family, this boy had an attack of sore throat, with exudation upon the fauces. It was not severe, nor by any means a typical case of diphtheria, but the exudation was enough to make me very suspicious of its nature.

At the time when Dr. Russell Reynolds's *System of Medicine* was published, one of the distinguished writers in that work stated that the closest correspondence in the laws of infection exists in scarlatina

and diphtheria. To this positive and comprehensive dictum (which Dr. William Squire seems to have endorsed) I am not altogether able to subscribe. Although I believe that the same poison may give rise both to scarlet fever and diphtheria ; and though I am satisfied that I have seen diphtheria resulting from contact with scarlet fever—the analogy, or even the occasional identity of the two diseases being thus forcibly suggested—yet facts which have come under my own notice are arguments too strong to allow of my accepting this declaration.

I have repeatedly seen a single case of diphtheria occur in a house containing several children, where it has been impossible to establish any effectual isolation of the sick child, or to carry out any efficient disinfection, without the spread of the disease to any of the others. I will mention, in particular, an instance where, among a family of nine ill-fed, ill-clothed children, inheriting delicacy and disease from a phthisical parent, and crowded together in a small, badly built cottage, a case of diphtheria occurred. The conditions present were all favorable to the spread of the disease. The affected child died in a week with extension of the diphtheritic membrane to the larynx, but not another case occurred among the rest of the family. Would or could this have happened had the disease been scarlatina? Other examples of the same kind I could cite, but not, perhaps, so emphatic. I am not disputing the communicability of diphtheria, but I do not believe that, in point of intensity, it can bear comparison with that of scarlet fever. I am disinclined, also, to allow that in either the incubation period, or the duration of its late infection, any close correspondence has been proved to exist in scarlet fever and diphtheria. The reasons for this opinion, which I submit with deference, may be gathered from what I have already written in this article.

The mutual influence of intercurrent infectious diseases is a matter which, I think, it is well not to lose sight of. The remarkable association of measles with whooping-cough is well known, and, when these two diseases are contracted together, they exhibit a mutual interference in their development and progress, one or the other being delayed in its course. In this way, measles may obviously become a disease of prolonged infective properties, and, in like manner, it is possible that some of the other diseases to which attention has been directed may be altered in their course, and protracted in their infection period.

331. PAROTITIS: On the Contagiousness of.—The number of constitutional affections in which hitherto no microbes of a supposed pathogenetic nature have been found is rapidly decreasing, and we have to announce parotitis as the latest addition to the list, as appears from a paper of Dr. Olivier, published in the *Revue Mensuelle des Maladies de l'Enfance* (*Deutsche Med. Zeit.*, January 23, 1886.)

Our author found in the blood, saliva, and urine of parotitic patients cocci partly isolated, partly as duplicocci, or united in chains

and heaps; he also noted small bacilli, which he believed to be identical with those described by Capitan and Charrin. These bacilli showed mostly a spontaneous motility, and could be colored in gentian-violet, while the cocci remained uncolored by this fluid. The pathogenetic natures of these microbes is best illustrated by the fact of their disappearance from the economy during convalescence. In the saliva of healthy children are likewise to be found micrococci, but they differ from those found during parotitis by being easily colored in gentian-violet. Olivier explains the metastatic phenomena in mammaræ and testes often observed during parotitis by the immigration of the specific microbes into these glands. In children in whom the poorly-developed genital organs possess but little blood, these metastatic processes occur almost never.—*Amer. Lancet.*

332. Variola, Contagiousness of at the Beginning of the Eruption.—LANCEREAUX reports three cases occurring in his hospital service, in which smallpox was transmitted at the beginning of the eruption. From these facts he draws the conclusion that variola may transmit itself on the first or at least the second day of the eruption, since the smallpox patient admitted by mistake in the hospital was transferred two days after the appearance of the eruption. This is, however, not the opinion commonly admitted. An English physician of great celebrity, Herberden, following the citation of Dezateux and Valentine, asserted that he was in possession of facts demonstrating that smallpox could not be communicated until after the second or third day of the eruption, and the persons who had never had it might, up to this period, sleep with those who had it without risk of taking it.—*Bul. de l'Académie de Médecine.*

333. SCARLATINA, the Causation and Treatment of.—A valuable contribution to the literature of this subject is made by DR. WHITLA in the *Dublin Journal of Medical Sciences*, in which the writer summarizes pretty carefully the present state of our knowledge. The investigations of Pohl-Pincus, Klein, Eklund and Ochterlony are discussed, but the conclusion reached that, as yet, the living organism of scarlatina has not been demonstrated or isolated. Much still is known regarding its nature. It is the most tenacious of all contagions. It will survive heat up to near the boiling point, and a freezing temperature does not destroy it. In England its virus is always more active in autumn. How does it enter the system? The writer cites cases where a lancet has carried the disease, but thinks in the great majority of cases the route of contagion is the pulmonary tract and the throat, first taking effect in the fauces. The ingestion of articles of food which have stood in the sick room appears, in some cases, to have caused the disease, so that it may possibly be absorbed by the stomach. The evidence that the disease may be communicated through the medium of a third party, the writer states, is overwhelm-

ing. The carrying of the disease by clothing, toys, letters, flowers, and even locks of hair from the sick-room are mentioned. Domestic animals are another medium. Regarding contagion by means of milk, the writer states that these cases have been found to be from the existence of the disease in the man who delivered the milk, the person who milked the cow, or, more often than either, the presence of scarlatina in the house where the milk was strained, mixed, or allowed to stand. No authenticated cases of disease in the cow were found. The author denies that scarlatina is even a drain disease, in the sense that the poison may be generated there *de novo*. There is not, even to his mind, satisfactory evidence that the general ill effect of bad sewerage render a patient more liable to the disease, or renders the attack more virulent. The disease has continued to deepen in extent and gravity in the face of all modern improvements in sewerage management. Emphasis is laid on the fact that it is the *pulmonary and cutaneous exhalations* which are the active agents in spreading the disease, and *not the epithelial scales of desquamation*. There is no doubt that the disease is highly contagious as soon as the rash appears, and analogy would render it at least probable that it may be conveyed during the period of incubation. Inoculation of animals with the scales of desquamation has almost always failed to produce scarlatina. The common rule of isolating scarlet-fever patients for six weeks, is considered a safe one; yet, if convalescence be retarded, it may be well to extend the period to nine weeks. Stress is laid upon three points: (1) The poison from the mildest case may produce the most deadly form. (2) In no disease is the part played by individual susceptibility so striking. (3) This susceptibility runs in families, and is often noticed in the most robust members. The period of incubation is believed to be shorter than is generally supposed. The writer is of the opinion that the rule is three or four days; numerous cases are referred to in which it was only one or two days. To prevent the patient from spreading the disease, rigid and immediate isolation, disinfection of everything which has come in contact with his person, anointing the body with some disinfecting ointment, scrupulous cleansing of the body with tepid baths, or sponging with a solution of Condy's fluid, are all things to be insisted on in every case. The writer has no faith in cutting short the disease by destroying the virus at its point of entrance, the throat, during the preliminary stage. It is compared to the excision of a chancre to prevent syphilis. Quinine and the sulpho-carbolate of soda are believed to do great good by reducing temperature, but do not shorten the disease. The reckless dosing with chlorate of potash is often productive of great harm, as is also the too free use of carbohc acid internally and about the patient; both are believed to increase the liability to renal complications. Great success is claimed for free and fearless purgation by croton oil and the use of the hot pack in treating uræmic convulsions. A dozen cases are mentioned as having been so treated successfully.

334. VINEGAR-APPLICATIONS, for Diphtheritic Deposits.—Used as a gargle diluted with an equal quantity of water, or as a spray still further diluted, vinegar is pronounced by Engelman to be an admirable remedy for the throat-affection in diphtheria, being more agreeable and less irritating than carbolic acid, and at the same time a more reliable germicide than the ordinary five-per-cent. solution of that drug.—*Centralblatt für Klin. Med.*

(We have used vinegar in one case of diphtheria with good result, but in another without apparent benefit. U.)

335. DIARRHŒA in children, Treatment of a form of. DR. BRAITHWAITE in the *Brit. Med. Jour.*—There is a form of diarrhœa in children, usually occurring after weaning, and from that period to four or five years of age, which is characterized by the most horrible offensiveness of the motions. This is so marked, that it is generally at once mentioned by the parents. It is commonly met with in summer, but it is not strictly what is known as infantile diarrhœa, in which disease the stools are sour, but not necessarily fetid. Probably this form of diarrhœa differs from the diarrhœa of younger infants, in being caused by the growth of the ordinary bacteria of putrefaction. It is not amenable to treatment by any astringent, nor has any alteration of diet much effect upon it.

It may, however, be successfully treated by disinfecting the bowel contents by means of salicylate of iron, as in the following prescription, which is suitable for a child two years of age. Sulphate of iron $\mathfrak{z}\text{i}$; salicylate of soda $\mathfrak{z}\text{i}$; glycerine $\mathfrak{z}\text{ij}$; water to three ounces. The iron and the salicylate should be dissolved separately, and the solutions mixed. The color is darker than port wine, and the taste not unpleasant. One teaspoonful must be given every hour, until the stools become well blackened, which happens in about twenty-four hours; or a larger dose may be administered at longer intervals. The medicine should then be given every three or four hours, and occasionally a small dose of castor-oil to clear the bowels well out, and to get the secondary constipating effect of the oil.

I have employed this mode of treatment for many years. It was one result of a long series of microscopic observations upon the action of reagents upon the bacteria found in putrefying animal fluids, which I read before the Leeds and West Riding Medico-Chirurgical Society eleven years ago. The addition of the salicylic acid to the iron I made more recently.

In hospital practice, and among the poor, it is not so successful as it would be if it were possible to remove the child from the family living room, the air of which is usually very impure, and is made worse by the smells incidental to cooking, and the presence of a sink.

Water	.	.	.	.	.	.	.	.	.	93.38
Butter	.	.	.	.	.	.	.	.	.	1.60
Sugar	.	.	.	.	.	.	.	.	.	2.10
Casein	.	.	.	.	.	.	.	.	.	2.65
Salts	.	.	.	.	.	.	.	.	.	0.31

Now, add two tablespoonfuls of ordinary cream, of good quality, and a heaping teaspoonful (about 100 grains) of milk-sugar. Cream itself contains about three per cent. of casein. But I have insisted that there must be a certain amount of lime added to the mixture, and I do not think that lime-water always serves the purpose required, even if it be given in large amounts. I prefer the soluble *lactophosphate*, and have used it largely with success for some years. To make this matter simple and to facilitate the carrying out of instructions, I have had compressed *tablets (Milk Food Tablets)* made, each containing—

Sugar of milk	.	.	.	.	.	.	.	.	.	26 grs.
Calcis lactophos.	.	.	.	.	.	.	.	.	.	$\frac{1}{4}$ gr.
Calcis carb.	.	.	.	.	.	.	.	.	.	$\frac{1}{3}$ gr.
Sodii bicarb.	.	.	.	.	.	.	.	.	.	$\frac{1}{2}$ gr.
Potass. bicarb.	.	.	.	.	.	.	.	.	.	$\frac{1}{16}$ gr.
Sodii chloridi	.	.	.	.	.	.	.	.	.	$\frac{1}{4}$ gr.

These can be made up in large quantities, put in cans or wide-mouthed bottles, and are to be used as follows :—

To prepare the bottle for a child about a month old or younger, take three ounces of boiling water and stir in one ounce of ordinary milk ; to this add three tablets and dissolve thoroughly : place the mixture in a nursing bottle and add two tablespoonfuls (one ounce) of good, fresh cream ; shake well, and give to the child at about the temperature of the body.

For a child two or three months old, prepare the bottle as follows :—

Take two ounces of water (boiling) and stir into it two ounces of good, fresh, ordinary milk (if the child is of a constipated habit, they need not boil together) ; then dissolve into the mixture four tablets, pour this into the nursing bottle, and add one ounce of fresh, ordinary cream ; shake well.

If the child's stools contain a mass of curds, showing deficient digestion, it would be well at once further to dilute the milk. Should this not be sufficient a small quantity of malted food, such as Mellin's or Horlick's, a teaspoonful to the bottle, can be added, to stimulate the digestive functions. If this fail, then use *peptogenic* milk powder, and predigest the curds ; and, finally, if still unsuccessful, put the child on condensed milk.

337. CEREBRAL Paralysis in Children.—A valuable paper on this subject was published by Professor Strümpell in 1884, which was noticed at the time in this column. In the present contribution, Dr. H. Ranke follows up the subject, and gives an account of nine

cases which have recently come under his care at Munich. His conclusions agree entirely with those of Strümpell, and are briefly as follows:—The disease is analogous to spinal paralysis, but is quite distinct from it. Of the initial stage nothing accurate could be learned. Three of the cases were supposed to be congenital; two of these were breech cases, and the third was a contracted pelvis; all three were asphyxiated when seen. Six cases were hemiplegic, the remainder monoplegic. In the hemiplegic cases the arm was usually more affected than the leg. The growth of the affected arm was checked, and it was shorter than the other; the nutrition of the muscles and bones being interfered with, but the subcutaneous fat was not affected. In the six hemiplegias there was marked athetosis of the arm. The paralysis was not in any of the cases of the loose, flabby character seen in poliomyelitis, but there was muscular tension, though no contraction. The tendon reflexes were always present, but rarely exaggerated. Sensibility was not lessened. Facial muscles were not involved. The electrical reaction, which are given very fully, were in strong contrast to those of poliomyelitis, *i. e.*, there was diminution of reaction to either constant or interrupted currents, and there was no reaction of degeneration. In two of the cases there was marked blunting of the intellectual faculties. The symptoms seem to point with great certainty to a lesion of the motor cortical tract of the brain.—*Jahrb. f. Kinderheilk.*

338. COCA, Therapeutic Value of Preparations of, in Childhood.—PROFESSOR POTT of Halle records some experiments with coca. He used a tincture composed of one part of coca leaves to five parts of absolute alcohol, and an extract internally, and solution of the strength of five and ten per cent. of cocaine for subcutaneous injection and external application. He found the tincture, in doses of from five to twenty drops every hour or two hours, of the greatest benefit in the various forms of enteritis, gastro-enteritis, colitis, and cholera nostras, in children under two years of age. Even in very severe and desperate cases, after from 50 to 100 drops of the tincture had been taken, *i. e.*, within twenty-four hours, the sickness stopped, the diarrhoea was greatly lessened, and a permanent improvement set in. Part of this improvement may have been due to the alcohol, and the ordinary rules for diet and hygiene were at the same time rigidly enforced. He found no benefit from its use in the diseases of the respiratory tract or of the nervous system. The extract was not fully tried, but seemed of some use in the nervous attacks of older children. The chief novelty in his use of the cocaine solution was in its application in whooping-cough. He found that painting a 5 per cent. solution on the back of the throat three times a-day had an immediate and strikingly beneficial effect on the paroxysms, reducing them at once in number from twenty or more during the twenty-four hours to three or four, and is of opinion that the course of the disease may

be shortened by some weeks by this method of treatment. He found the same application very useful in cases of inflammation of the tonsils and pharynx, and in various forms of angina.—*Jahrbuch. f. Kinderheilk.*

339. UMBILICUS, Disease of the, in the New Born.—

DR. LUDWIG FÜRTH had the opportunity to study a large number of cases of diseases of the umbilicus in the new born in the Vienna clinic. From his report, we translate the following: "Simple, but more successful than anything else, is the following cure of umbilical hernia, which has never been known to fail in the Vienna general clinic: Small square pieces of soft linen are put up in pyramidal shape over the hernia; in their centre a linen button (common button spun with linen, as generally met with in drawers for men) is so applied that the button—which must be of exact shape of the opening—just closes the opening, and finally the whole is fastened with a suitable linen abdominal bandage. Gradually, as the opening by contraction diminishes in size, a smaller button must be selected. If this procedure is faithfully carried out, the uniform result at the Vienna clinic is a proof of its success."

Excoriation, blennorrhœa, and ulcus umbilici, demand a treatment with astringents. The best method is first lightly to touch the affected part with the solid nitrate of silver; then a salve consisting of one ounce of benzoated zinc ointment, a dram of Peruvian balsam, and four grains of carbolic acid, is locally applied with patent lint, and when almost healed, but evincing great slowness towards the end, the part is washed twice daily with aromatic wine, and this application is then followed by the salve.

The real sarcomphalus, consisting in the formation of granulations, is thus treated: if they are large enough a ligature is applied, otherwise they are touched with nitrate of silver.

Inflammation of the umbilical artery is not rare. A development from it of erysipelas has never been observed in Vienna. Here, too, it is well occasionally to touch the inflamed part with nitrate of silver; in the interval, astringents and antiseptics should be applied.

Umbilical phlebitis is a dangerous disease. It mainly attacks debilitated infants, and is apt to give rise to erysipelas and phlegmonous abscesses, though we believe that the phlebitis itself is already caused by the infectious material causing the last named maladies. Our art is here powerless; when once developed, it generally ends fatally. We can only try to prevent infection by strict antiseptics.

Books Received.

"A Dictionary of Surgery," Heath, J. B. Lippincott Co. "Diseases of the Nervous System," Hammond, D. Appleton & Co. "New Medications," 2 vols., Dujardin Beaumetz, George S. Davis. "Medical Education and Medical Licensure." An address delivered before the Twenty-third University Convocation. By Wm. H. Watson, A.M., M.D. "Intubation of the Larynx for Diphtheritic Croup. By Fletcher Ingals, A.M., M.D. Reprint from the Journal American Medical Association. "Transactions of the Louisiana Medical Society at its Eighth Annual Session."

340. A DICTIONARY OF PRACTICAL SURGERY. By various British Hospital Surgeons. Edited by Christopher Heath, F.R.C.S., of the University College and Hospital, London, England. In two volumes bound together. Philadelphia: J. B. Lippincott Co., 1886. Cloth, pp. 1854, double column. Price, \$7.50; sheep, \$8.50.

In this "Dictionary of Surgery," which might fairly rank as a system of surgery, so thorough and comprehensive is it, we have a worthy companion volume to "Quain's Dictionary of Medicine." The subjects are arranged, and with cross references, where it has been found more convenient to group together a series of diseases of one organ. Each subject, as far as practicable, is treated under the sub-headings: 1. Cause. 2. Pathology. 3. Symptoms and Diagnosis. 4. Treatment. 5. Prognosis. The articles have not been illustrated, owing to the extra space that would have been necessary in a work already voluminous, and to the time required for the production of original wood-cuts. The aim of the editor has been to furnish a compendium of the practice of British surgery of the present day, and a work that will give to the busy practitioner immediate information concerning surgical diagnosis and the best approved treatment. A general index at the end is a valuable addition to the convenience of the work.

The material of the work, a series of articles by the most prominent British hospital surgeons, exhibits a divergence of style, and of opinion, that add something to its attractiveness; and, as each article is signed by the writer, the responsibility rest upon him alone, the work of the editor being to join these fragments into a harmonious whole. It would be impossible to mention even the names of the chief contributors to the more general subjects of surgery; but we note that Sir James Paget contributes the article upon "Old Age in its Relation to Surgery," Sir Henry Thompson that upon "Tumors of the Bladder," and Mr. Jonathan Hutchinson the subjects which are included under the head of "Syphilis." Mr. Knowsley Thornton furnishes the articles upon "Diseases of the Female Organs of Generation," including Abdominal Tumors, Cæsarian Section, Diseases of the Fallopian Tubes, Laparotomy, Elytrotomy, Oöphorectomy, Ovarian Tumors, Ovariectomy, Porro's Operation, Uterine Tumors, Extirpation of the Uterus and Uterine Appendages.

Mr. Allan Doran writes of Amputation of the Cervix Uteri, Stenosis of the Cervix Uteri, Emmet's Operation, Extra-Uterine Foetation, etc. Upon the "Surgical Diseases of Children," Mr. R. W. Parker is the principal writer, Mr. E. Owen and Mr. Marsh also contributing. The subject of Antiseptics and Antiseptic Surgery has been ably discussed by Mr. Watson Cheyne, and Abdominal Surgery in general by the editor.

But two years have elapsed, says the editor, from the planning of the work to its

completion, a celerity of action which makes it an exponent of the present condition of surgical practice, and as such, we commend it to our readers, who desire to be au fait in the latest achievements of surgical art.

341. A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By Wm. A. Hammond, M.D., etc. With one hundred and twelve illustrations. Eighth edition, with corrections and additions. New York: D. Appleton & C., 1886. Cloth \$5. Sheep \$6.

A work from the pen of this distinguished author, and neurological novelist, is certain of a favorable reception, and particularly so when it has attained the dignity of an eighth edition. This book is already so well known and doubtless in the hands of so many of our readers that they would regard an extended review of it as an antique *lastenca Americana*, but with the additions and alterations that bring it in line with the latest knowledge concerning that most obscure field of medical research, lesions of the nervous system, it becomes in some respects a new work. A section has been added upon "certain obscure diseases of the nervous system." This includes three chapters which treat of tetany, Thomsen's disease, and miryachit. Tetany, the author is disposed to believe more prevalent in Europe, and particularly in France, than in this country, although in a modified form it may occur more frequently than is generally supposed, being diagnosed as hysterical or cramps, which we think is highly probable.

Thomsen's disease takes its name from Dr. Thomsen, by whom it was first fully described and who was one of its victims. "Thomsen's disease is chiefly characterized by the supervention of tonic spasms in the muscles to which in the act of exerting them volitional impulses are sent, and which remain for some time after the movement is executed." Miryachit and kindred affections, cover the very curious nervous diseases to which a certain class of people are liable, as the jumpers of Maine. It being jumping in Maine, *miryachit* in Siberia, and *latak* in Malaysia.

342. NEW MEDICATIONS. By Dujardin-Beaumetz, M.D. The Physicians' Leisure Library Series. Published by Geo. S. Davis, Detroit, Mich. 2 vols. pp. 150. each 25 cents per. vol.

This work constitutes two volumes of the new series which under the name of the Physicians' Leisure Library, Mr. Geo. Davis is offering to the medical profession at the very low price of \$2.50 per year of twelve volumes or at 25 cents for a single volume. The series will consist of works by well known authors written expressly for it, or of translations of books not hitherto published in this country. The author of this work is so well known in this country as a brilliant writer, is admirably adapted to work of this character, the passing of judgment upon the new appliances and remedies of the materia medica. The books are nicely bound in paper, presenting an attractive appearance and are worth many times their cost.

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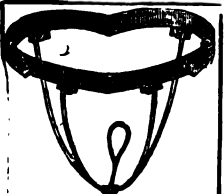
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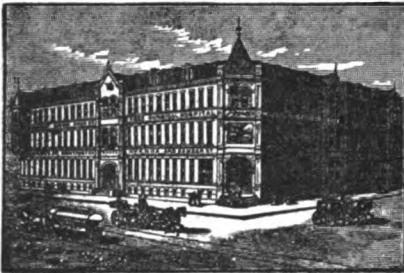
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The returns show that it is the Standard Food and extract, as the percentage of lives restored was the largest when used.

We extract from the report. After calling attention to the fact that one-quarter of the homoeopathic profession are accustomed frequently to prescribe this for children less than a year old, as well as over, remarks—

"It is singularly adapted to scrofulous, syphilitic and tubercular constitutions, its life-restoring power manifesting itself in each with a relative clearness and power corresponding to the order of enumeration. For fair-haired children who are inclined to grow fleshy it is more symptomatically recommended, while Duncan's acid babies find it particularly useful. Accordingly it is chiefly employed for marasmus and anæmic conditions resulting either from non-assimilation of food or from simple summer complaint. Should a child vomit all milk food and suffer chronously with diarrhoea or dysentery, the demand for this food is emphatic and unmistakable; also the general irritability of the stomach, particularly if there be sour-smelling diarrhoea, the food passing through undigested. For the prematurely born it stands as eminent. For those 'weak and debilitated from any cause, Murdock's Food is probably the best in the world.' Should any indication of cerebral hyperæmia appear, the quantity of food must be diminished; so, too, if after its protracted use vomiting and diarrhoea ensue; the child has been overfed. *Should the taste or odor of any given bottle chance to be disagreeable, add water until they disappear, and let the purchaser congratulate himself upon getting more nutriment than is paid for.* When given in combination with milk in cases of indigestion, the quantity of milk should be diminished until all curds disappear from the stool, the quantity of Food, of course, being proportionately increased."

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If richer, it is stronger in smell and flavor, and will bear a greater reduction. It cannot be reduced so low but it will be superior to all other preparations in treating chronic cases.

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Gynaecology.

343. VICARIOUS Menstruation.—DR. ROBERT BARNES in the *British Gynecological Journal*.—In another case pregnancy was attended by dropsy and hæmaturia. A young woman, four to five months pregnant, (for the first time) came to the London Hospital, having had dropsy for some weeks; it was general; the labia majora were much distended. There was hydræmia, and she complained of palpitation. She passed blood in the urine.

Assuming—and physiological observation lends strong force to the assumption—that gestation acts as a substitute for menstruation, taking its place, using for structural purposes the blood that would otherwise be discharged by the uterus, we may look upon gestation as an analogue, or rather a homologue, of menstruation—that is, as a form of vicarious menstruation.

It is well known that gestation does not always suspend menstruation. Ovulation, which we may assume to be the immediate cause of the menstrual flow, continues during gestation; and occasionally the tendency of the menstrual wave to overflow by its accustomed channel is too strong to be restrained. Thus we have a series of hæmorrhages, which burst out with more or less periodicity, evincing their true character. The most common of these is that which escapes by the vagina, presumably from the uterus, like ordinary menstruation. What is the source of this blood? It is not common to observe menstruation beyond the first three months of gestation. Up to this time the decidual cavity is not always completely closed. The blood, therefore, may ooze from the free surface of the parietal decidua, probably also from the reflexa. It may also come from the mucous membrane of the cervical canal, and even from the vagina. In the later months, the decidual cavity being closed, the blood can only come from the cervical canal or vagina. In some cases I have seen it oozing from the canal, the mucous membrane being apparently

sound. In other cases the epithelium has been seen shed, the villi bare and prominent, and blood oozing from the abraded surface of the vaginal-portion. I have also seen a remarkable condition, deserving to be noted in this connection: this is, with the described barring of villi, a tumid, irregular enlargement of the vaginal-portion, angry-looking, easily bleeding on touch, resembling malignant disease. In one case this was the opinion given by two physicians of experience, one of whom was ready to act upon his diagnosis by amputating the cervix. My advice to regard the condition as physiological was accepted; the patient was delivered without mishap, and at this day, two years or more afterwards, shows no sign of disease.

These hæmorrhages are conservative in their design. Hæmorrhages that flow from mucous canals find ready escape. They relieve systemic and local hyperæmia. In this respect they resemble some cases of abortion, which may be regarded as a protest of Nature against the continuance of a dangerous pregnancy. Unless relief be found in this way, vital organs may be struck; and we may have fatal cerebral or lung apoplexy.

We may now state briefly some of the theories which have been put forth to explain the outbreak of hæmorrhages in unusual places. The oldest and the most obvious is the theory of plethora, which is a condition of normal menstruation.

The state of hyperæmia preceding menstruation, expressed by the term *molimen hæmorrhagicum*, must be relieved. If the normal route fails, the excess of blood which is manifest in every part of the system seeks a vent elsewhere, and will escape at the *locus minoris resistentiæ*.

'These cases of vicarious menstruation prove how intense is the effort of Nature to seek an outlet for blood. They seem to show that the general tension of the vascular system becomes greater when the uterine mucous membrane is not free. This general tension is illustrated by the general sensation of 'those things flying to the head,' evidenced by headache, vertigo and epistaxis. These phenomena of vascular tension suggest that the rational treatment consists in diminishing tension by purgations and leeches, or by cupping. It seems in high degree probable that in the struggle of the circulation to find relief from the menstrual tension the ordinary vicarious safety-valves may sometimes fail; that then the internal organs, as the brain, lung, liver, kidney, spleen, have to bear the strain; and that thus the foundation of structural organic disease may be laid.'

All this is strikingly exemplified in the history of gestation.

The theory of plethora is objected to by Parrot, urging that plethora implies excess of blood-globules, whereas the subjects of hæmatidrosis have mostly been chlorotic. He further disputes the theory of excess of watery blood. I think it unnecessary to discuss this objection. We may have hyperæmia, as in pregnancy, with diminution of red globules, and increased vascular turgescence and exalted vascular pressure are phenomena sufficiently proved.

High tension, that is, pressure on the peripheral vascular system,

is a dynamic condition resulting partly from increased volume of blood, and is equally consistent with the hypothesis of watery blood and of rich red blood.

It has been contended that vicarious hæmorrhages break out in organs or tissues predisposed by being diseased, by hereditary peculiarity or congenital weakness. This theory is adopted by Becquerel. Scanzoni thought these hæmorrhages were due to an abnormal structure of the vessels of the organs to which the flux is deviated. These more readily give way. He compares them to "revulsive bleedings." If they are abundant there will be no flow by the genital organs; otherwise they are accompanied by bleeding of the vagina.

Depaul and Guéniot remark that the blood-flux usually takes place in regions or tissues deprived of their natural tegument, that is, from wounds, ulcers, ruptures of varicose veins, &c.

But cases that I shall presently adduce prove that this postulate of a morbid state of the structure from which the hæmorrhages issue is far from being necessary. In some cases it appears certain that the bleeding tissue, if diseased, has become so as a consequence of the repeated hæmorrhagic molimen directed to it.

Whatever the seat of election for the vicarious discharge, whether it be determined by morbid condition of the part or by other circumstances, the flow will generally continue to recur from the elected seat. We are accustomed to invoke "habit" as an explanation. That is simply a way of saying, we do not know better. To use the expression of Royer Collard, "It is as if Nature had quite forgotten the right way."

The ectopic discharge not infrequently occurs from more than one place. Thus cases are narrated in which hæmatemesis existed with bleeding from the ears, nose, and other organs. If the patient is suffering from piles these are pretty sure to bleed.

I have related a case of menstrual hæmatemesis which illustrates the influence of heredity. There seemed to be a distinctly hæmorrhagic diathesis. Thus a young lady, æt. 24, had several attacks of hæmatemesis more or less profuse, and at last one which was so severe and protracted that she had a very narrow escape with her life. It appeared to be connected with menstrual deviation. She recovered fairly; but six months later, just when menstruation was due, having felt sick, with oppression at the stomach, she vomited a small quantity of dark blood, the menses appearing at the same time, scantily. She never suffers dysmenorrhœa. A brother, aged 5, died of epistaxis, after purpura. The father died of epistaxis at 56, caused, his wife says, by intemperance, which produced epilepsy. Whenever he had a fit he had hæmorrhage.

Another theory—the one adopted by Parrot—is that the transudation of blood is due to nervous influence. Hence his term "neuropathic hæmorrhage." This theory is based upon well-known cases of menstruation being suppressed by fright, anger, or other emotions, and quickly followed by hæmatemesis. Nerve-influence as a factor cannot be disputed.

The phenomena of blushing, and other passing local congestions, are enough to prove that the nervous system plays an important part in the history of hæmorrhage. If hæmorrhage from the uterus after parturition can be suddenly stopped by active contraction of the muscles, and of the arterial coats, so we know that when the controlling force of the nervous system is suspended or diverted hæmorrhage breaks out. The following passage from Whitehead expresses the general fact of the complication of nervous disorder, without pointing decidedly to its causal or consequential relation.

Whitehead observes that "some individuals suffer for years under what are denominated nervous disorders, which, from their periodical repetition induce a habit in the brain and nervous system calculated to continue the phenomena even after the exciting cause shall have ceased to exist. It is not unfrequently observed, for instance, that vicarious discharges, in persons possessing a highly developed brain, are accompanied periodically by spasmodic and convulsive affections, fits, palpitation, temporary loss of muscular power, or impairment of the senses, requiring at each recurrence the employment of active remedial measures. . . . Witness, for example, the recurrence of the 'hysteric passion' which was first developed during suppression or retention of the menses, continuing in greater or less intensity ever afterwards, although the menstrual function come to be duly discharged." They will recur at times corresponding to the menstrual periods, even during gestation.

It has been observed that in most, if not in all, the cases of vicarious menstruation there is disorder of the nervous system. The subjects are unusually emotional, some hysterical. But it is not wise to conclude from this fact that the cause of the deviation lies primarily or mainly in the nervous disorder. Still less reasonable is it to conclude, as neurotic specialists are apt to do, that the whole mystery of vicarious menstruation is a creation of disordered imagination, the offspring of delusion and of deceit. That delusion and deceit enter more or less largely into the history of some cases may be freely admitted. But in many cases the phenomena, distinctly objective as they are, can hardly be manufactured by the perverted will of the subject. The subjectivity, indeed, will not seldom be found in the mind of the neuropathist, which, prejudiced by his special theories, distorts and misinterprets the facts seen and narrated. If carefully studied with an open mind, they will be found to be in harmony with sound physiology. The apparent frequent predominance of the neurotic element in these cases does not prove that this element is the primary, and still less that it is the exclusive, factor in the production of the phenomena observed. Just as we see in many cases of obstructive dysmenorrhœa, nervous disorders, in the manifold shapes of neuralgia, pains, hysteria arise, and become aggravated under repeated attacks of the menstrual difficulty; so it is in these cases of vicarious menstruation, itself a form of dysmenorrhœa. But the truth lies exclusively neither in the theory of plethora or other vascular disturbance, nor in the theory of nervous disorder, but

in the mutual and concurrent action of both. If we must admit the fact that the blood could not move in the vessels unless under the influence of nervous energy, we must equally admit that there would be no nervous energy were it not for the nutrient and stimulant energy of the blood. In our statement of the history of ordinary menstruation we have seen that two phenomena are well marked—namely, exalted nerve-tension and exalted vascular tension. These two factors are necessarily concerned in every form of disordered menstruation. The due relation, the equilibrium, may be overturned. But still both are playing a part, struggling to fulfil the function with which they are charged.

I may here be permitted to apply a favorite aphorism: "Pathology is simply physiology working under difficulties." Vicarious menstruation must not be looked upon as a disease, although many morbid or abnormal conditions may arise in complication with it. Menstruation is a function that must in one way or other be performed, or the system will suffer. The term *amenorrhœa* must not be accepted without great reserve. It is very apt to mislead, to conceal altogether processes working obscurely in the attempt to accomplish the purposes of menstruation.

We must look upon the human body as a whole, all whose functions are working together to one end. Instead of disintegrating the body, instead of studying each organ as an entity more or less distinct from the rest—the great danger in modern medicine—we must constantly seek to realize the integration of the body. In the living body we must recognize the Hippocratic maxim, "*Consensus unus, conspiratio una, consentientia una*"; or, as W. K. Clifford well puts it, "The integration of parts means the connected play of them; so that, one being affected, the rest are affected."

The vicarious or supplementary relation of organs is a familiar fact in physiology. It is a law that governs all rational therapeutics. Thus, the skin and kidneys, the lungs, the liver, the glandular system, intestinal and other, are constantly doing reciprocal work. That obstructed or arrested menstruation, then, should be supplemented or helped by other organs than the uterus is in strict accordance with the fundamental laws of physiology. There is a solidarity in the organism, binding the constituent organs into unity, and making them work with one consent. Reasoning from this basis, we shall be prepared to understand that menstruation is not simply a function of the uterus and ovaries, but a systemic function. We shall understand that it is a function, the due performance of which is necessary to the well-being of the individual. Menstruation, or an equivalent or substitute, must be performed. If, then, menstruation is not carried out in the ordinary way by the discharge of blood from the uterus, an attempt, more or less successful, will be made: (1) by ectopic discharges of blood; (2) by discharges of mucus, serum, by *leucorrhœa*, or *diarrhœa*; (3) or the material in the circulation, and the nervous energy prepared, will be used up in other functions, as in the processes of gestation or lactation; (4) by

building up new tissues, as fat or other aberrant forms of metabolism; (5) by effusions in the connective tissue, in serous cavities, or in the substance of organs; (6) by exciting various neuroses, as hysteria, epilepsy, apoplexy.

(*To be Continued.*)

344. MENSTRUATION, *New Explanation of the Process of.—Phys. and Surg.*—The following are the propositions with which the writer concludes his part:

(1) The periodical flow of blood from the female genitals is not a consequence of the rupture of a follicle (which usually occurs at the same time), but of the degeneration of the uterine mucous membrane which has become hypertrophied before such rupture, and independently of it.

(2) This growth, the menstrual decidua, is caused by the imbedding in the unimpregnated condition of the last ovum furnished by the ovaries.

(3) If this imbedded ovum is impregnated, the menstrual decidua becomes that of pregnancy, but if the ovum remains unimpregnated, it degenerates as a consequence of the death of said ovum.

(4) Taking each menstruation for itself, the rupture of the follicle and the flow of blood stand in no other causal relation to each other than that possibly the causes and conditions which are operative at the occurrence of the hæmorrhage may, at the same time, have an effect in bringing about the rupture of a ripened follicle.

(5) The coincidence of the rupture of a follicle and the flow of blood is, therefore, no necessary one. Each can occur separately; a follicle can rupture without there being any menstrual decidua present, and this secondary consequence of the ovum which has previously made its appearance—namely, the menstrual flow—can occur without a new follicle rupturing at the same time.

(6) The periodicity of menstruation is determined by the extra-follicular strength of life of the imbedded and unimpregnated ovum; the variations from the general or individual periodicity depend upon the shortening or absence of such capacity for life, either idiopathic or the results of intercurrent influences.

(7) The ovum which has been expelled, usually at the last menstruation, and is present ordinarily in the uterus (in abnormal cases elsewhere), is the one which is impregnated.

From these the following very practical conclusions can be drawn:

(8) Since the menstrual flow is neither a physiological function, nor the necessary accompaniment of such a function, but the direct consequence strengthened by innumerable repetitions of a process which is the result of our social conditions,—namely, the unimpregnation and death of the human ovum—therefore it has all the properties and results of other hæmorrhages, which are always pathological.

(9) It increases and diminishes under like conditions with them.

(10) The flow of blood which is the necessary accompaniment of

the menstrual decidua, is only to be regarded as harmless when it occurs per diapedesin. When per rhexin, it is under all circumstances unnecessary, and becomes injurious when it is felt and responded to by the entire organism as a loss.

(11) The amount of the injury corresponds to the proportion between the amount of the blood lost and the quantity (plus the quality) of blood which the body contains at the time.

(12) Under these circumstances the indication is for the greatest possible reduction in the amount of the menstrual flow, as of any other loss of blood.

(13) The means to be recommended are first and foremost rest in bed, and hot water injections.

(14) On the contrary, the voluntary cessation of the menses (idiopathic amenorrhœa) is under no circumstances to be regarded and treated as a disease; it is only a sign that a function (ovulation) which is not necessary to the life of the individual, from some cause or other (youth, age, pregnancy, lactation, debility), was not properly performed at the proper time, that is, about four weeks previously.

(15) Supported by this theory, and the observation of Lawson Tait as to the importance of the tubes for menstruation, it would be desirable to attempt to substitute for castration salpingotomy (partial resection of both tubes after previous ligation) in those cases where uterine dysmenorrhœa, menorrhagia, fibroids, and such uterine affections call for the anticipation of the menopause.

(16) Should it appear impossible after beginning the operation for castration in the above mentioned conditions to completely remove the ovaries, snalpigotomy would be directly indicated.

345. PERINEUM, *the, as a Supporting Structure.*—DR. C. D. PALMER, in *South. Clinic*.—The author, after ascribing to Ambrose Paré due credit for having first devised and executed an operation for the cure of laceration of the perineum, reviewed the list of names that had been prominent in advancing the operation toward perfection, and entered into the discussion of the question, To what extent is the perineum a supporting organ?

This he considered one of the mooted questions of the gynæcology of to-day. Within recent years there has been a growing tendency to discard, at least in a measure, the direct supporting power of which we have been supposing this body possessed. The author recalled to mind three cases of complete laceration of the perineum which had lasted thirty-six, twenty, and ten years. In no case was there any uterine or vaginal displacement. The question might be very pertinently asked: Why, if the perineum is such a needful support to the vagina and superincumbent viscera, do the vaginal and uterine displacements invariably follow after years of practically total destruction of its integrity? Why do we so frequently have great and serious displacements of these organs when the perineum proper has suffered little or no injury?

1. The perineum does not possess that supporting force claimed by some for it.

2. Other factors than its injury lead to displacements.

Emmet, Schatz, and Duncan are prominent among those who have expressed views against the supporting power of the perineum. The uterus obtains no direct support at all from the perineum. This organ is suspended in the centre of the pelvis through the pelvic floor. The perineum lies largely below the pelvic floor. It is injury of some kind, over-distension, undue stretching, laceration in some part of the levatores ani or pelvic fascia, separation of these muscles in their central connection, injury of some sort to the structure where the anterior rectal joins the posterior vaginal wall, all largely confined to parturition, that we are to look to for the real and immediate cause of most cases of uterine displacements.

It will be safe, I think, to formulate the following propositions:

1. As the perineum is made up of muscular and other tissues, entering into the lower structure of the floor of the pelvis, it follows that lacerations of it do impair, both directly and indirectly, the forces which sustain the vagina, and through this organ, the bladder and rectum.

2. Perineal lacerations, even complete ones, may occur and not be followed by displacements. Complete splitting of the sphincter ani, leading or not to rectal incontinence, greatly diminishes the chances for vaginal displacement, in that it lessens ordinary intra-abdominal pressure at rectal evacuation. The absence of any change in the vaginal walls implies that the laceration, however extensive, has involved to a great extent only the base of the pyramidal body.

3. Perineal lacerations do not produce uterine dislocations directly. Through vaginal subinvolution, the formation of a rectocele, a cystocele, then traction upon the pelvic floor, they may do so indirectly.

4. Uterine displacements to a great degree, and vaginal displacements to considerable though less degree, are due to a weakening of the pelvic floor or diaphragm (from which the first-named organ is suspended), by injuries sustained chiefly during parturition, but aggravated by causes operative afterwards.

346. PERINEAL Operation, New, Dr. Emmet's.—DR. A. MACLAREN, in the *Northwestern Lancet*.—The perfection of the perineal operation as it is generally performed to-day, is in great part due to the ingenuity of Dr. Emmet. The use of silver wire as a suture, the binding together of the free ends of the twisted sutures, covering them with a bit of catheter or rubber tubing, the higher denudation into the sulci, are all points which were either devised by him, or which he brought into prominence, years ago.

There were two main considerations which led Dr. Emmet some six years ago to change both his principle and his method of operating.

The first cause for this change, the cause which led him to change his principle for restoring the perineum, was the firm conviction that the generally accepted theory of the physiological function of the

female perineum was erroneous; that the perineum did not support the uterus either directly or indirectly, and that the loss of the perineum led to displacement of the uterus, not by withdrawing a support to the uterus, but by allowing the rectum to push forward into the vagina in the form of a rectocele, dragging upon the uterus through the posterior wall of the vagina, especially during the expulsive efforts of defæcation.

The second cause, the one which led Dr. Emmet to change his method of operating, was the clinical fact that he found that the most frequent perineal tears were not central but transverse.

The advancing head of the child or more frequently the lower shoulder pushes the perineal body in front of it and tears it away from the posterior vaginal wall, the tear starting in one posterior sulcus and ending in the other, accompanied perhaps by a more or less severe tear of the fourchette, or it may be showing no external signs of the injury.

As this statement of Dr. Emmet's is so entirely at variance with the generally accepted theories of perineal lacerations, I have taken the past two years every opportunity of satisfying myself as to its truth or falsity, and I can only say that I have been very much surprised by the results of my observations. I find among a few histories taken while serving upon the staff of the Nursery and Child's hospital, of New York City, the records of four transverse perineal tears, all occurring within one week. The women were primiparæ, the labors were all normal, no instruments were used and the tears were superficial, the most severe being only three-fourths of an inch in depth, and were not considered as extensive enough to need a suture, by Dr. Ten Eyck, then acting as house surgeon.

During my service in this hospital I never saw a purely central tear, and I came to the conclusion that Dr. Emmet was entirely correct; that a central tear never occurred except in the cases when the tear extended through into the rectum. My experience in private practice has not led me to change my views; on the contrary has but confirmed my belief.

If now we take a recent perineal wound, and separating its edges follow it up the posterior vaginal wall and back into the posterior sulcus upon one or both sides, it will be found to correspond in shape to a crescent, or to half a crescent, according to whether the tear be unilateral or bilateral, if I may be allowed the expression.

If the tear happens to be bilateral or crescentic, extending completely across the vagina from one posterior sulcus to the other and with no external split, the injury is very often overlooked; on the other hand if the tear is unilateral, extending from a posterior sulcus to the centre of the perineum and ending in a central tear of the perineal body, the external or inferior end of the tear may be the only part of the injury which is recognized and treated. Following this idea of a crescentic and transverse tear, and recognizing the insufficiency of the regular operation to cure such injuries, Dr. Emmet devised the operation which is now known as Dr. Emmet's new perineal operation.

His denudation is made in the shape of a crescent, the crest of the

rectocele corresponding to the centre of the lesser curve of the crescent. The lowest caruncle upon either side, dividing the greater curve into three nearly equal parts, the horns of the crescent extending into the posterior sulci upon either side. To avoid denuding too high into the sulci, the tissues between the crest of the rectocele and the carbuncle upon one side are put upon the stretch, and the upper margin of the denudation made to correspond to a straight line running between these two points, the mucous membrane and cicatricial tissue being then removed out to the site of the fourchette, not touching the skin nor the mucous membrane upon the labia. Now if this denudation is repeated upon the other side, the surfaces denuded will be found to roughly correspond in shape to a crescent.

The advantages of this operation are :

1. That you can restore the perineal body more perfectly than by any other operation, from the fact that it is possible to more accurately follow the track of the original tear and pick up the torn fascia and perineal muscular fibres.
2. During convalescence the patient suffers practically no pain, it being the exception not the rule to administer an opiate.
3. The patient is able to pass her own water herself, and the nurse and the catheter with the consequent urethritis are done away with.
4. It is not necessary to confine the patient's motion in bed nor to tie her knees together.
5. The bowels can be moved upon the second day, as it is not found necessary to constipate the patient for from four to six days, as is usually done in the regular operation.

Referring to my case book I find the records of thirteen perineal operations, all done by this method, during the past fifteen months. In every case union has been perfect. It has not been found necessary to draw the water in a single case. It was found necessary to give three quarter-grain suppositories of morphia in one of the cases, but aside from this case one suppository given the night following the operation has been the only opiate which it was found necessary to administer, and several of the cases have taken no anodyne whatever. Several of my cases were operations performed for other surgeons, and two of my own I have not heard from since leaving the city shortly after the operation was performed. But all the patients whom I have heard from are either entirely or almost cured, and in two of my patients, who had first suffered the agonies of the regular operation, I have the very strongest adherents to the cause of Dr. Emmet's new perineal operation.

My conclusion is that this operation accomplishes all and more than the regular operation, and accomplishes it with less pain and with much less discomfort to the patient, points which should be of the very first importance in every surgeon's eyes.

The objections to the operation are that it is rather difficult to understand, and is a little more tedious for the operator. Before closing let me advise every one interested in this operation, especially if he thinks of performing it himself, to read very carefully Chapter XX, of

Dr. Emmet's "Principles and Practice of Gynæcology," 3rd edition. Also, the very valuable article upon this operation by Dr. E. C. Dudley, of Chicago, Vol. IV, "Pepper's System of Medicine."

347. UTERUS, Gradual Dilatation of the.—DR. CHAS. M. WILSON in the *Coll. and Clin. Record*.—The operation to which I shall briefly call attention is especially a Philadelphia procedure. In 1832, Dr. Mackintosh, of Edinburgh, called the attention of the medical world to the fact that many cases of mechanical or obstructive dysmenorrhœa could be cured by gradual dilatation of the uterine canal. He accomplished this dilatation by the introduction of a graduated series of steel bougies, similar to those recently brought to the notice of the profession by Dr. Spooner, of Philadelphia. They are, I believe, graduated according to the French catheter scale, and run from the size of a fine steel probe up to a large instrument.

The operation of dilating with metallic bougies gave way to the slower method of dilatation by the introduction of tents. This was accomplished by the use of tupelo, sea tangle and sponge tents, compressed into a cylindrical form, dried and inserted into the uterus, and allowed to remain until they had expanded by the absorption of the secretions from the endometrium.

This procedure, in turn, gave way to the more barbarous method of cervical hysterotomy, advocated first, in 1843, by Simpson, and shortly afterward by J. Marion Sims.

In 1877, after several years' use in private practice, Dr. Elwood Wilson presented the profession with the dilator which is still largely used in this country, and which bears his name. About the same time, or a little before Dr. Wilson presented his dilator to the Philadelphia Obstetrical Society, a Dr. Ellinger, of Germany, devised the instrument which I show you here. Schultz, Simpson, Sims, Ball, Goodell, Baer, and some twenty or twenty-five others, have modified the dilator of Ellinger and of Wilson, but they all act upon the same principle. They are, in reality, all constructed on the same pattern. The only difference that we note in looking at the various forms is the difference in the curvature of the uterine beak of the instrument and the difference in the divergence of the blades. The Ellinger dilator has blades which expand equally. When pressure is made at the tip, they feather, and the ends approximate. This is true of every form of dilator with equal bilateral expansion of the blades. Even in this rough, coarse instrument, it is possible to approximate the blades to a certain extent. In the Wilson dilator the blades cannot feather, for they do not expand equally from joint to tip, and when they are expanded in the uterus they form an inverted cone, the base of which points toward the fundus, and the apex toward the external os. This makes the instrument self-retaining, so that no force exerted by the uterus contracting on the expanded blades of the dilator can cause it to be pushed out.

In the treatment of cases in which women have defective menstrual depuration, in which there is excessive pain at the menstrual epochs,

whether the uterine canal be partially occluded by angulation, or whether this defective axis be congenital, we resort to the use of this instrument for the purpose of restoring the patency of the canal and to overcome the excessive pain from which the patients suffer at the time of the menstrual periods.

The dilator consists of two lateral halves, united, three and one-quarter inches from the uterine or beak end of the instrument, by an ordinary screw-joint. The external or proximal end is seven inches in length from joint to handle, and terminates in two handles attached at an obtuse angle to the shank. The beak or diverging end of the instrument is shaped much in the manner of a Thomson male bougie. The arc of curvature of the beak is fashioned to a circle three and one-quarter inches in diameter. The diverging blades are conical in shape, decreasing in size from the joint to the distal extremity, the decrease in their diameter running through seven sizes of the French catheter scale. Three dilators comprise the set as ordinarily used. The smallest, whose use is really that of an explorer, measures ten millimetres at the point, being a little larger than the ordinary uterine sound. The second size measures sixteen millimetres, and the third size, or largest instrument of the set, measures twenty-two millimetres at the point. These measurements are, of course, circumferential. Thus, the dilators correspond to the English urethral bougies Nos. 5, 8, 11. The instruments are fitted with a screw and button attachment, by which, when the dilatation has been accomplished by *manual* effort, the blades are held apart for a few moments. The cross-bar upon which the screw is threaded is marked in spaces which correspond to centimetres of separation of the blades at the extremity of the beak, so that the operator may accurately judge how much separation of the blades exists. The extreme divergence of the blades at the beak end, in the smallest instrument, is two and one-half centimetres. In the medium size, three centimetres, and in the largest size, three and one-half centimetres. With the smallest instrument, if the uterine canal be greatly diminished in size from its normal calibre, or the uterus be spasmodically contracted around the instrument, some feathering or bending of the blades may take place, owing to their lightness. When using the smallest instrument, therefore, an allowance of at least half a centimetre should be made between the amount of dilatation as read off from the markings on the cross-bar, and the dilatation as it really exists in the cavity of the uterus. In the two larger-sized dilators, however, the blades are too large and strong to permit of any appreciable feathering; so that the amount of dilatation as read off from the indicator really exists in the uterus. Owing to the fact that in this instrument the expansion is greatest at the distal extremity of the diverging blades and decreases toward the joint, it is impossible for the dilator to slip if the uterus resists the dilatation by contracting upon the expanding blades. Hence, in using this form of dilator, the operator may rest assured that, once having properly introduced it, it will remain *in situ* during the time that the blades are expanded.

There is one point to which I should like to call attention in regard to the so-called exaggerated curve of the instrument. Dr. Goodell, in his first edition of *Lessons in Gynæcology*, recommended this instrument—and, by the way, Dr. Charles D. Meigs, at one time Professor of Obstetrics in the Jefferson College, approved of this curve. He said that this curve represented as near as could be, the normal axis of the uterus. You know that normally, the uterus always occupies the so-called anteflexed position, that its lower portion is closely connected with the bladder, and that as the bladder becomes distended, the position of the uterus will be changed. You know that, as a rule, in the so-called irritable bladder—the so-called nervous bladder so well described by Dr. Goodell—the desire to frequently micturate which women suffering from mechanical obstructive dysmenorrhœa frequently present, is not due to this anteflexion or anteversion, and that this position of the uterus is not abnormal. Pessaries are not required to overcome it. If the anteflexion is only moderate, no form of treatment is called for. It is only in those cases where we have hyperæmia, and where we have after-labor sub-involution, followed by a condition of hyperplasia or hypergenesis of tissue, that the anteflexion really becomes pathological. I call attention to this curve because it facilitates the introduction of the instrument. The curve is not so marked as it would appear. In introducing the instrument, if the handles are elevated, the tip points toward the sacrum. When the handles are depressed on the perineum, they elevate the beak of the instrument, so that it will slip into a uterus turned almost upon itself anteriorly.

The method of introducing the instrument will require some little attention. Frequently, students grasp the instrument roughly and without reference to what they desire to accomplish; they grasp it firmly and attempt to push it rapidly into the uterus. It is impossible to introduce the instrument in that way, and this is one reason why the so-called exaggerated curve has caused the instrument to be severely criticised by some operators. Let me describe the details of the operation. The patient should be in the lithotomy position, the one usually employed in this country for examinations. The cervix is then exposed with a modified Nott speculum, in which the anterior blades are shorter than in the original instrument. If the os does not present in full view, the posterior lip of the cervix is grasped with a tenaculum. The operator should always have a good strong light, so that the os may be found without difficulty. Sometimes in mechanical dysmenorrhœa, in those rare forms where there is more or less occlusion of the external os as a result of gonorrhœal inflammation, or from applications such as iodine, carbolic acid and nitrate of silver, it is difficult to find the os. In my office, I frequently use the Trouve electric light to locate the os at night and on dark, cloudy days. Previous to introducing the dilator, it is passed through the flame of an alcohol lamp in order to warm it. If not warmed, its introduction is apt to be followed immediately or in a short time by uterine colic. In determining the proper degree of heat, we can use the same test em-

ployed by the laryngologist in testing the heat of his mirror, that is, by placing the instrument against the skin of the face, where it is delicate and readily appreciates the degree of heat. The dilator is then anointed with carbolized petroleum jelly or a moderately aseptized preparation of oil, as carbolized oil, one to sixty. The instrument is then grasped like a pen, lightly, without any force, resting on the distal end of the second finger and steadied by the thumb and index finger of the right hand. By a previous digital examination, we determine approximately the position of the uterus, whether anteflexed, retroflexed or latero-flexed. The beak of the instrument is carried through the speculum until it reaches the external os. We then make the instrument follow the inclination of the uterus, as determined by the previous examination. If there is a lateral flexion, the instrument will be made to conform with the displacement. If there is marked retroflexion, the instrument will be reversed. If there is anteflexion, the handles must be depressed. We first make use of the smaller instrument, which is an explorer. This can often be introduced where the smallest probe cannot pass the external or internal os. As the beak of the instrument reaches the internal os, it will generally be halted. In order to overcome this spasm of the internal os, the blades are separated to a slight extent and withdrawn one-fourth or one-half an inch. They are then brought together and pushed forward. After one or two attempts of this kind, the beak of the instrument will slip into the uterus. As a rule, the introduction of this explorer, with the passage of the second size, without opening the blades, is all that is done at the first sitting. The patient is told to return in three or four days, as the case may be. The second sized instrument is then prepared and carried into the uterus and expanded as far as the patient can bear. If you proceed in this manner, you establish a tolerance to traumatism, and are less apt to have perimetritis or other forms of peri-uterine inflammation. That it does occur where rapid dilatation or divulsion is done at one sitting, is well established. This accident is frequently complained of under such circumstances, and this is one reason why dilatation is so unpopular with some operators.

The extent to which the dilatation is to be carried, and the length of time during which the dilator is to be allowed to remain, is to be determined by the tolerance of the patient. She will often cry out that she cannot stand it any longer. You will then let up for a few minutes, and while talking to her and explaining the necessity for the operation, you can make a few turns of the screw, and by turning up the screw very slowly you can, as a rule, get half an inch or more without causing the patient excessive or unbearable pain.

The operation is a painful one, especially at the first few dilatations. The pain, however, is usually of short duration, though severe in character, and is sometimes followed by a sense of soreness and uterine distress for a few hours. The withdrawal of the instrument is commonly followed by the appearance of a few drops of blood. But I have never seen anything like a hæmorrhage after its use. Per-

formed in the manner described above, the operation has never been followed by any untoward symptoms in my hands.

Besides its use in overcoming mechanical or obstructive dysmenorrhœa, the dilator has other uses. It is probably the best and safest uterine repositor that we have. We can overcome flexions or versions, whether anterior, posterior or lateral, with greater facility and safety by the introduction of this instrument than by any other that I know of. It is impossible to rotate the uterus with this instrument. If there is a retroversion or retroflexion, the beak is carried into the uterus, the blades slightly separated, and the instrument gradually turned upon its own axis, lifting up the uterus. The guide to the amount of replacement which may be attempted at one sitting, is the sensation of the patient. When she complains of unbearable pain, or of a sudden, lancinating pain, this manœuvre should cease, to be repeated at a subsequent period. It is better to dilate little by little, and to restore the uterus little by little to its proper position, than to attempt the more dangerous methods of rapid dilatation and rapid restoration.

The dilator is also used for other purposes, viz., for purposes of diagnosis, and also for uterine medication and applications. For purposes of diagnosis it is probably best, and this is, I think, the only time when it is best to resort to rapid, full dilatation. Often you cannot wait for the more gradual process. It may be a case of menorrhagia, where the bleeding continues, and is due to a polypus or a fibroid, which must be removed speedily. Under such circumstances, we introduce the dilator and slowly expand it up to its full extent, the patient being anæsthetized. It is quite possible, when the neck of the uterus is expanded to one and one-quarter inches, especially if the hand can be moulded and carried into the vagina while the uterus is depressed from above, to carry almost the whole finger into the uterus and examine it carefully. After such examinations, it is best to keep the patient moderately under the influence of an opiate, preferably given by the rectum, for twenty-four hours.

In the treatment of uterine affections it is sometimes necessary to make use of fluid applications and injections. If the uterus is thoroughly dilated and the nozzle of the syringe is carried between the blades of the dilator, this form of uterine medication is robbed of many of its dangers. You know that in irrigation and the application of remedies to the cavity of the uterus, there is great danger of inflammation from retention of the strong agents used. If the mouth of the uterus be kept patulous, any excess of fluid will flow along the nozzle of the intra-uterine syringe and along the separated blades of the dilator.

Let me now call attention to some of the objectionable points which some of these dilators present. Here is one which is very popular, owing to the interest of some makers, who thoroughly advertise it. I do not want to do the instrument any injustice, for I believe that, when properly used and in skilled hands, it is a valuable instrument; but in hands of average skill it is a very dangerous instrument. It is

too powerfully made and is too strong. It has another disadvantage—that is, the serrations on the beak of the instrument, which were put there with the object of overcoming the difficulty which is prevented in the Wilson instrument—namely, the slipping of the blades. This is the disadvantage which all instruments with equally-expanding blades present. Again, such instruments give dilatation where it is least needed, and where the uterus is least able to resist it—that is, at the external os. Dilatation is never needed to the same extent here as in the internal os. Where the dilator is screwed to its full extent, you will occasionally have rupture. This may be very slight or it may be sufficient to cause the patient a good deal of trouble. The inventor himself tells us, that in dilating with it he has torn the neck.

In reference to the cutting operation, or cervical hysterotomy, which has been entirely replaced by mechanical dilatation, I should like to refer to one case which recently came under my observation. It was a case in which a distinguished gynecic surgeon had operated for mechanical dysmenorrhœa. The uterus was small and infantile, with a pyriform neck. He used his hysterotome, and thoroughly cut the cervix along each side of the cervical canal. The external os remained patulous. There was no relief of the symptoms of menstrual distress. The patient, when seen some two years later, in addition to her dysmenorrhœa, had the local and reflex symptoms of laceration of her cervix, and trachelorrhaphy was performed to restore the contour of her cervix. The case was operated upon by Dr. Ellwood Wilson, after Dr. Agnew had advised the operation. It is now nearly three years since the operation, and the patient is and has been perfectly well. I merely mention this to show the evil results which followed the old operation of cervical hysterotomy.

One disadvantage of rapid dilatation is the traumatism which it causes to the uterus. Just as rapid dilatation or divulsion of the urethra may be followed by chill and the other evidences of shock, and by sympathetic fever, so rapid dilatation or divulsion of the uterus is often followed by evidence of peri-uterine inflammation, often of sufficient severity to jeopardize the life of the patient. Again, in regard to dilatation, some operators make a great thing of it, give ether, bring in two or three assistants, and charge a proportionately greater fee, although the patient is subjected to a much greater risk, and seldom receives the same benefit as when gradual dilatation is performed. It is always best to be honest and explain what you are going to do, especially if the patient be intelligent and can comprehend the advantages of the proposed method of treatment, and to whose judgment and good sense you can appeal. It is infinitely safer to employ gradual dilatation, just as it is infinitely safer to overcome a constriction of the male urethra by gradual dilatation than it is by rapid divulsion.

Having told you how to relieve mechanical dysmenorrhœa, let me describe some of the ordinary symptoms to which this condition gives rise. In about sixty per cent. of the cases sterility will be associated with the dysmenorrhœa. The cases will present histories

something like this: the patient has been married four or five years, perhaps; the maternal instincts have become aroused in her, and she becomes jealous and envious of her neighbors, who have children. She wants a child. She tells you that before marriage she had painful periods, and had to lie down during the acme, and that she had more or less intermenstrual discharge—a leucorrhœa. Since marriage she has become worse, the periods are longer, the pains more violent, the headache more annoying, and the backache worse. How do we account for the increase in the severity of the symptoms? Nature has provided that the physiological activity of the uterus should be interrupted by the occurrence of pregnancy, and that this intermission of physiological activity should be still further prolonged by lactation. During lactation, as you know, menstruation is absent. The uterus, which was to have had this rest, or, rather, this change of physiological function rather than rest—for it is a change of functions when the uterus becomes loaded with the products of gestation—is subjected to additional congestion and additional irritation by the irritation of coitus. The canal, which, previous to marriage, was almost sufficiently large to permit the proper discharge, has its calibre lessened, as a result of the thickening of its endometrium. In all probability, in such cases the hyperæmia has led to a hypergenesis of tissue. The uterus has become heavier and larger, and the quantity of blood expelled at each menstrual epoch has become proportionately greater. How do we account for the acute pains which the woman suffers during the menstrual period? The uterus is almost always bent forward, with its fundus impinging on the bladder. Menstruation takes place. For the first few hours only a few drops of blood are discharged. The blood accumulates behind the angulation or bend in the uterus. This condition can be best illustrated by bending a quill or a rubber tube upon itself. This will much diminish, or entirely occlude, the calibre of the tube. In the uterus, the blood accumulates behind this angulation until the uterus is straightened and its contents are expelled. The pain ceases then for half an hour or so, when, as the uterus refills, the pain returns, and continues to increase in intensity for from two to four hours, when the uterus again straightens itself, and temporary relief is again obtained. This same process is repeated during the whole period of menstruation, the pain being of such intensity that it is relieved only by very large doses of opium.

I have now described the method of operating and the condition for which the operation is done. Let me now say a word about the time, with reference to the periods, at which the operation should be done. It is best to see that the last dilatation takes place within three or four days of the expected period. Not within one or two days, but within three or four days. The introduction of the dilator should not occur immediately after the period, for then the uterus is engorged with blood. During menstruation the womb becomes much enlarged. Some of you may have had an opportunity of making a post-mortem

on the body of a woman who was menstruating at the time of death. Under such circumstances, the uterus will be found to be as large as the fist and thoroughly engorged with blood. It requires four or five days after the cessation of the period for this congestion to disappear. The proper way is to commence one week after menstruation has ceased, and to dilate twice a week up to three or four days before the anticipated date of the next period.

Having secured full dilatation, what are you going to do? Are you going to discharge the patient, and tell her that she need not return? You must tell her to return every three or four weeks for the next four or five months, if you want to effect a perfect cure. Having opened the uterus, it must be kept open until nature's cure takes place, viz : until the woman becomes pregnant.

There are cases of rudimentary uteri, of malformed or defective uteri, in which you will find that dilatation will do possibly more good than in any other class of cases. You will see a little uterus measuring, perhaps, one and one-half or one and three-quarter inches, with a conical cervix and a pin-hole os. There may be moderate ante-flexion. The woman suffers a good deal from ovarian neuralgia, possibly due to the defective development of the ovary and excessive congestion of the ovary during the catamenial periods. In such a case, you will find that moderate dilatation acts as physiological exercise to the uterus. You dilate three or four times a month for a year, often, before you obtain a thoroughly good result. The uterus will increase in size under this treatment. The advance from week to week may not be apparent, but at the end of four or five months the uterus will measure two inches or two and one-fourth inches, it will become larger and approach the normal size, the cervix will become broader and less conical, and the mucous membrane will become redder. The disappearance of the conical cervix is explained by the fact that the uterus is a highly elastic organ, and lateral distention must shorten it. For example, if you take a rubber glove finger and stretch it laterally, you shorten its depth.

You will sometimes find it necessary to introduce the dilator without the aid of the speculum. In young unmarried women, it is desirable to avoid the use of the speculum, which would be likely to rupture the hymen, and might expose the woman to suspicion in later life.

There is another point to which you perhaps may not have had your attention called. The uterine dilator is of equal efficiency as an urethral dilator. Where there is a stone in the female bladder, the urethra may be dilated with this instrument. Also in cases of urethritis, due to gonorrhœal infection, you will find oftentimes after the vaginal discharge has ceased, there will still be a great deal of urethral and vesical irritation. There may be a good deal of discharge attended with the formation of little excoriated surfaces and tubercles about the mouth of the urethra. In these cases of chronic urethritis in the female, the introduction of the dilator will be of great service, and will have a good effect in modifying the character of, and finally

controlling, the discharge. Just as we make use of dilatation by bougies for the relief of chronic urethritis in the male.

The instrument is also useful in cases of catarrhal endometritis, cases which have been swabbed with iodine, carbolic acid and nitrate of silver for years with very little benefit. In such cases, the presence of the dilator in the cavity of the uterus will often have a beneficial effect.

The dilators are usually made in sets by the instrument makers. I care nothing who makes them, so long as they are made properly. Ordinarily, you will find that you do not need more than two dilators, the large and the small size. You can nearly always get sufficient expansion with the small dilator to admit the introduction of the large one. The large size is so firmly and strongly made that you can secure a dilatation of one and one-fourth inches, which is sufficient for all cases. Dilatation to a greater extent is dangerous and is apt to be followed by grievous results.

Another point with reference to gradual and rapid dilatation is, that with rapid dilatation the uterus often contracts down to its previous size in a brief period of time, whereas, with gradual dilatation, the uterus does not contract, and you rarely experience this difficulty.

I have here a large number of dilators. Here is the Atlee dilator, but it is not strong enough. Here are a number of instruments in which the blades expand parallel to each other. These have another disadvantage which I have not mentioned, that is, that all the strain comes on this central pin, and it is not an uncommon occurrence for the instrument to break down at this point. It is quite possible that this might occur when the instrument is in use, and this would be attended by more or less shock. If the instrument should suddenly give way when the uterus was expanded to its fullest extent, it might be followed by injurious results.

Some instruments are supplied with ring handles, which are not as good as the straight handles of the instruments I have shown you. In the early part of the dilatation, it is well to support the blades with the hand, so as to judge of the power of the uterus to stand the dilatation by the tension which is felt with the hand upon the handles of the dilator. If I feel that too much pressure is being exerted, I can let the handles loosen a little. This cannot be done so readily with the ring handles.

In performing this operation, I never give ether, I never use a tenaculum, and it can be done with as much facility without the speculum as with it. It is wise to swab the uterus before and after the operation with some mild antiseptic, such as a solution of boracic acid, or carbolic acid, or a mild solution of corrosive sublimate (1 to 5000 or 7000). It is best always to advise the patient to lie down and rest quietly for at least the balance of the day upon which the dilatation is performed. When the dilator is used as a repositor in a case of retroflexion or retroversion, a little cotton pledget, with a string

attached to facilitate removal, saturated with glycerine or boroglyceride, or glycerole of tannin, should be carried into the posterior fornix of the vagina, to hold the uterus in place and prolong the advantage which has been gained by restoring the uterus with the dilator. In cases of ante-flexion and anteversion, it is rarely necessary to make use of these cotton pledgets. In regard to latero-flexions, I think that they make no more difference to the woman than the mere fact of her nose being turned more to one side than the other. I do not believe that you gain anything by the introduction of pessaries after restoring the uterus to its normal position. If the woman has any vesical or rectal trouble, the pressure of a pessary augments it. I am speaking now of my own experience, simply. In the clinic, where I see ten or twelve new cases every week, I have, in two years, used but two pessaries, and I do not feel that I did those patients any good. After restoring the uterus, I use these pledgets, and have abandoned entirely the use of pessaries.

348. FLEXIONS, the Intra-Uterine Stem in the Treatment of.—DR. A. R. JACKSON, in the *Journal of the Am. Med. Ass.*—Within the past few years observations have been published (Vedeler, Herman,) showing that ante-flexion of the uterus is a frequent and normal condition; that it bears no causative relation to the symptoms usually ascribed to it; and that, hence, flexions, as such, do not demand treatment at all.

While it may be admitted that all cases of uterine flexion are not accompanied by dysmenorrhœa or sterility, and that both these conditions are frequently attributable to other causes even when co-existent with flexion, yet it is equally true that in very many instances there does exist a relationship of cause and effect between the flexion and the symptoms named. In these, certainly, the flexion must be looked upon as a mischievous pathological factor, and one which ought to be corrected.

I have never attempted to treat any case of uterine flexion which was not accompanied by dysmenorrhœa; and the removal of this symptom was the principal, and sometimes the only, object in view—although co-existing barrenness frequently constituted an additional incentive to the patient to undergo efforts at cure.

I have used several forms of stem pessary, but as most of them have been abandoned for various reasons, I need not consume time by mentioning them in detail. More than any other I have used, and still use, the Chambers bifurcated vulcanite instrument, and this has been the most satisfactory. A radical defect, however, of the instrument, as commonly used is the divergence of the branches *below* the internal os uteri. This produces an undue degree of stretching of the parts, resulting sometimes in irritation and expulsive pains. I have frequently secured the retention of the instrument by approximating the branches, and using it as a single stem when it could not be borne with the branches separated. In all cases the stem ought to be practically single below the internal os. Above this point a slight bulging

may be given to the blades near their tips, thus preserving the self-retaining feature of the instrument.

The details of the method which I employ latterly are as follows: After ascertaining the existence and direction of a flexion, I endeavor to pass a flexible olive-tipped bougie through the bent portion and, if possible, quite to the fundus. The depth of the uterine canal is carefully noted. I then select a pliable stem having the same diameter as that of the bougie, and one-third of an inch shorter than the ascertained depth of the uterus. The os uteri being then exposed by means of a speculum, the stem, either seized with dressing forceps or mounted upon the end of a piece of pointed wire, is passed entirely into the uterus. A large flattened tampon of absorbent cotton, moistened with slightly aluminized glycerine, is then pressed firmly against the bulb of the stem, and allowed to remain one or two days. It is then removed and replaced by a fresh one. It may be necessary to re-apply the tampon three or four times before the tendency of the stem to slip out of place disappears.

If the os uteri be found pointing high up, either forwards or backwards, it may be impossible to introduce the pessary through a valvular speculum. In such a case the patient should be placed in the semi-prone position of Sims, or, as I prefer, in that of Simon, on the back, with the buttocks projecting beyond the edge of the table or bed. With perineum retracted, the cervix may be drawn towards the vulva with hook-forceps, and the stem introduced as above described. These cases present rather more difficulty at this stage of the treatment, but, as a compensation, the stem very rarely leaves its place.

These flexible stems are made by cutting the distal end from the ordinary bougies used for stricture of the male urethra. A shoulder or bulb is provided by rolling upon the stem a section of rubber tubing.

After the yielding stem has remained for a period varying from one to three weeks, according to the degree of tolerance manifested by the uterus, it is removed, and a thicker one put in its place. This, likewise, is permitted to remain a week or two, and is then replaced by a Chambers stem, which, after the preliminary treatment described, rarely produces irritation. I never expect much, if any, change of shape to occur in the uterus in consequence of the use of the flexible stem; and yet in several instances I have been surprised to discover that a very considerable alteration had taken place within a few weeks, or even a few days, after beginning its use. Moreover, in a few cases I have not been obliged to resort to a rigid instrument at all, the acuteness of the flexion having been converted into a slight curvature by the use of the pliable instrument alone. Usually, however, not only have I found it necessary to use an inflexible, or nearly inflexible pessary, but to persevere in its use for periods varying from three months to a year. This is not done continuously however. I always remove the pessary at the end of three or four months. Of course, the uterus is found straight at this time. The patient is permitted to go without the

stem for at least a week, at the end of which time I make an examination to ascertain the condition of the uterus. If it be found still of proper shape the pessary is not re-introduced. I do not feel at all certain, however, that the apparent cure after so brief a period will be permanent, and, if practicable, I like to make another examination after the further lapse of two or three weeks. In case the examination reveal a return of the distortion, even in slight degree, the stem is replaced and the patient directed to wear it for another period of two or three months, when the effect of the treatment is again tested.

The feature of this treatment which I hold to be necessary to its safety and success, is its slow and gradual conduct; and the non-observance of this necessity has been, I believe, the cause of dangerous results and a failure to cure. A moment's consideration ought to assure us that an amount of force necessary to suddenly straighten a chronically flexed uterus would be as great as would be needed to bend a straight one, and could not be safely applied to the exterior of the organ, were that possible, much less to its delicately organized interior. Any method of treatment which contemplates the very rapid restoration of a flexed uterus, is faulty in principle and dangerous in practice. The distorted viscus must be coaxed, as it were, into proper shape, and then permitted to grow into normal symmetry.

The drawbacks to this method of treating uterine flexions are fourfold: 1. Difficulty of retaining the instrument in position. 2. Pain. 3. Hæmorrhage. 4. Pelvic inflammation. The three latter are common to all other modes of treatment.

1. *Difficulty of Retention.*—In nearly all cases there is a tendency on the part of the uterus to expel the foreign body, and this tendency is in direct proportion to the degree of irritation produced by its pressure—modified, however, by the relative sensitiveness or excitability of the uterus. In some cases an intra-uterine stem will give rise to most intense expulsive efforts at riddance, while in others its presence will be apparently unheeded; but even in some of the worst of these tolerance becomes established after a few days of rest in bed, and use of the tampon.

Occasionally, even when the uterus appears quite tolerant of the presence of its tenant, the latter will slip out almost as quickly as it is introduced. I have not found any entirely satisfactory method of preventing this. The best, so far, has been the use of a vaginal pessary which maintains the uterus in a position of a strong ante- or retroversion, and thus brings the bulb of the stem to rest against the vaginal wall.

2. *Pain.*—In my experience, pain in any considerable degree has not been a frequent or formidable symptom. When it is manifested I rarely do anything to lessen it beyond enjoining strict rest in bed. Regarding it as an indicator of the amount of local disturbance the stem may be causing, I prefer to not abolish it by the use of opiates, and thus mask possible inflammatory mischief. Commonly, pain which early follows the insertion of the stem subsides after a day

or two. If it persists longer, or becomes worse, I at once remove the instrument for a few days and then re-introduce it. It may sometimes be necessary to thus remove and replace it several times before it can be finally left.

3. *Hæmorrhage*.—This is a frequent consequence of the use of the stem. I have known a few cases in which it was produced almost immediately after the introduction of the instrument and continued as long as the latter remained. In most instances, however, we need not expect more than a slight flow, lasting a few days, and perhaps an earlier appearance of the next menstrual epoch, with, possibly, an increased amount of discharge during the first two or three periods following the beginning of the treatment.

4. *Pelvic Inflammation*.—As already stated, this has not occurred in my experience as a result of the use of the stem pessary. But the fact has not lulled me into an unwarranted security against its liability to appear, and I find myself always looking for it.

Of sixty-four cases, forty-two occurred in married and twenty-two in single women. Of the former, eight had borne children; the other thirty-four were sterile. Of the latter, eight subsequently were fruitful. Of the entire number a cure of the flexion followed in forty; four were improved and relieved of dysmenorrhœa, which before had been constant. In twenty the result was unknown. The ages of the patients ranged from 19 to 39 years. The uterus was anteflexed in fifty and retroflexed in fourteen.

I believe the principle of the intra-uterine stem in the treatment of flexions to be correct; and it need not be dangerous—at least no more dangerous than any other effective method. I further believe that by its use a larger number of cases of uterine flexion can be cured than by any other means at present in vogue. The conditions necessary for safety and success are watchfulness, patience, and slow progress.

349. UTERINE Sound, the, with Especial Reference to its Place in Gynecological Literature.—DR. W. W. POTTER in the *Buffalo Medical and Surgical Journal*.—'Twas but a few years ago, when the possession of a Fergusson's speculum, a caustic-holder, a uterine dressing forceps, and a Simpson's sound, was considered by the vast majority, an ample outfit for the practice of gynecology. Some few, 'tis true, more favored than the many, added a number of other instruments to their armamentaria; but these were, in the hands of the multitude which made pretence to practice the art, all-sufficient for the diagnosis, treatment, and cure (?) of all the sexual ills of woman.

The discovery by Sims of the speculum, which now, by almost universal consent, bears his name, and the consequent improvements in the methods of diagnosis which followed its introduction, soon led to the retirement of the round, or cylindrical, speculum of Fergusson, so that now it is almost unheard of, excepting as one of the curiosities that belong to a nearly obsolete method of practice. So, too, with the coming into vogue of the more exact methods of diagnosis and

treatment of the Sims' school of gynecology, the uterine portcaustique fell into comparative disuse; for it had now been found that many cases of acquired stenoses, as well as innumerable cicatricial bands, and other formations in the sexual tract, were produced by the indiscriminate, and all too general application of the nitrate of silver.

The uterine sound, however, has held sway for a much longer period, or to a much later day, and is only now, or recently, beginning to give way to other and safer, not to say better methods of diagnosis and treatment. It has been used in the treatment of almost every malady peculiar to the female pelvic organs, and I am very sure it is entirely within the range of truth to assert, that it has done woman more harm than any other instrument which has been employed in the management of her diseases.

When Simpson, in 1843, published his first memoir on the uterine sound, it attracted the attention of the profession throughout the civilized world—at least those members of it more especially interested in, or giving attention to, the treatment of the diseases of women. Professor Simpson proposed the instrument, which bears his name, for the purpose of diagnosing, or aiding in the diagnosis of, many of the diseases of women, which had before been either little understood, or greatly misunderstood, or else confounded with other maladies.

Indeed, previously to the knowledge which the sound afforded, though the retroverted uterine body had often been felt resting in the concavity of the sacrum, it had not been possible to recognize its true nature and import by the touch alone. It had been confounded with, or mistaken for, almost every variety of tumor or morbid growth which might, and often does, lurk in that region. But now, with the sound passed to the vault of an empty cavity, its curved extremity taking a backward direction, and its tip distinctly felt by the finger in the rectum, the diagnosis of a retroverted womb occupying the sacral excavation was quite readily established. The sound was also made to occupy a seemingly necessary place in determining the size of the womb—*i. e.*, whether above the normal average, or not; the relative length of the cervical and corporeal cavities, likewise the total length of both; the sensitiveness of the viscus; the thickness of its walls; its relations to other pelvic viscera; and finally, *inter alia*, it was employed as a repositor in correcting abnormal positions of the organ. Furthermore, one of its principal uses of late years has been in making applications of various medicines to the endometrium, in the treatment of many morbid conditions supposed to require medication by means of its use as an applicator.

It is believed by the writer, and by a goodly number of others who have both written and spoken on the subject, that younger physicians are particularly prone to resort to its use unnecessarily, and even in cases where it ought not to be employed at all, to the infinite, not to say sometimes irreparable, damage of the genital tract or health of woman.

Nor is this animadversion exclusively or alone applicable to the professional novitiate; for, sadly enough, it is a censure from which

many of the more advanced practisers of the art of medicine cannot wholly or entirely escape. I, myself, have observed—and I dare say it is within the experience of many—a man of that large experience which pertains to years of practice, boldly invade the uterine cavity with the sound, twisting it hither and yon with a force and careless abandon to its possible consequences, that not only utterly amazed me at the time, but which, on reflection afterwards, brought a shudder of horror and a dismayful foreboding as to the resultant mischief which had already been produced, or which it were likely to cause.

To prevent misapprehension, and to escape, likewise, the possible charge of having assumed what might seem, on first thought, a self-asserted superiority of knowledge on this point, permit me to declare that I do not, by any manner of means, hold myself to be wholly blameless concerning the improper use of the sound. On the contrary, I take unto myself a full share of the censure which I am venturing at this time to also lay at the doors of others. Looking backwards upon the earlier years of my gynæcological work, I recall numerous instances in which I very much regret its employment at all, and still other, and much more numerous ones, where I greatly deplore the *methods* of its use. These experiences, though unfortunate for such patients as have been the victims of my temerity, have, nevertheless, been laden with a golden freightage for me. I do not remember to have inflicted, in any case, a fatal, nor even an irrecoverable injury; but I have seen, as the work of my own hand, very serious threatenings in both these directions, and the lessons I have thereby learned, teach me to be ever fearful when taking into it the dreadful and ever-to-be dreaded uterine sound. They have, moreover, taught me, even in those cases which seem most to invite its aid for diagnostic purposes, to use it with the utmost caution, circumspection and gentleness.

It is the sum of these warnings, derived from such bitter experiences, which prompts me to speak out in terms of admonition, and to protest against the use of the sound, except in the plainest and most favorable conditions; and then, only, when other and better means of establishing a diagnosis, have failed to bring that exactitude which may be demanded in cases of great importance.

It would manifestly be difficult for one, in these days of improved methods of training, to mark out any definite line of procedure that ought to be invariably adopted, with reference to any class of cases which might be presented for study or treatment; and, moreover, it should be considered particularly reprehensible to interdict or condemn, by reason of prejudice, any medicine or instrument that possesses any intrinsic merit, or which has any capabilities for good, whatsoever, lurking within itself when timely administered or intelligently employed. But I would most strenuously insist, in any case over which I could exercise control, that this particular instrument should only be appealed to as a final diagnostic resort in a juncture of extreme doubt. As for myself, I have, of late years, so seldom used the sound that I should be almost ashamed to exhibit those which I

possess, they having grown so untidy—nay, almost rusty—with desuetude.

These are, indeed, but generalities, and I fear me and you are already exclaiming within ourselves, “Come to particulars, man!”

Fortunately, as far as meeting this demand is required, but unfortunately for those most concerned, the particulars are not few, nor the results obscure, upon which our indictment is brought.

Have we not repeatedly seen the endometrium, already so sensitive as to repel even the lightest touch, spring into violent inflammation as the result of contact with the uterine sound? Metritis—both peri- and para—salpingitis, ovaritis, pelvic cellulitis, *et id genus omne*, are among the more direct results that have followed so closely upon its employment as to leave no reasonable doubt concerning cause and effect. These are formidable disturbances, in and of themselves, to deal with during the stage we are accustomed to call acute. In their more remote bearings upon the health of woman, they are far-reaching and extreme. How seldom does a woman recover from the immediate onslaught of one or other of these, and still other maladies, which may be directly chargeable to the use of the uterine sound, without a permanent—permanent unless fortunately relieved by art—impairment of her sexual functions in some important particular.

It is now sterility; then retroversion, or other displacement; and, again, hyperæsthesia of the genital tract, constituting one form of what Robert Barnes has so tritely named dyspareunia. Still, again, do we find a hyperplastic thickening of the uterine walls, with all its attendant phenomena, including uterine catarrh, than which there is no more obstinate form of so-called leucorrhœa; or, perhaps there is thickening, and consequent shortening of one or other of the broad ligaments, distorting and drawing out of place the uterine body, and rendering futile, until overcome, any successful attempts towards reposition of the displaced organ.

And yet again, may we have the pelvic inflammation resulting in abscesses of the connective tissue, which, in themselves, constitute some of the most formidable, not to say dangerous, of all the maladies liable to invade the pelvic cavity of woman. Still, and yet again, were it possible to group together, in a single table, the numberless instances where, innocently enough, to be sure, but none the less disastrously, women have been caused to abort, from the unwarrantable employment of the sound in the management of their special diseases, it is quite possible that the figures would be so appalling as to seem almost apochryphal.

Finally, though by no means of the last moment, may come those indescribable symptoms, remote, reflex and sympathetic in character, which we call neuroses—hystero-neuroses, if you please—that are as difficult to treat as they are to locate, but which, nevertheless, serve to make a woman more miserable, and are oftentimes more painful to witness, than the very agony of disease itself. These, together with the various neuralgias—ovarian, uterine, cystic and rectal—besides

the backaches, spineaches and headaches, along with their associated functional disturbances, create a picture of woe and suffering and sorrow altogether pitiable to behold, as well as conditions most obstinate to relieve.

I am aware, gentlemen, that the list is a long one, and the contemplation thereof not pleasant; but there is not, I affirm, a single one of the number which may not have its origin, directly or indirectly, in the unbecoming, unnecessary, or uncareful use of the uterine sound.

Mr. Lawson Tait, in a paper presented at the late meeting of the Medical Society of the State of New York, entitled "Methods of Diagnosis," discoursed at considerable length in regard to the uses of this instrument. Among other things, he said: "In the gynæcology of twenty years ago, which was pretty much the period at which the great master of the art left it, there still remained a survival of the battles which raged for many years concerning the speculum and the sound. The school of French gynæcology was charged with an altogether improper, and indeed, as it was urged, a very indecent frequency in the use of the speculum. On the other hand, the English school, with Simpson at its head, was fully as often and as loudly charged with an improper use of the sound.

"The conclusion I have come to concerning the both of these instruments and both of these disputes is, that both sides were right and both were wrong.

"It is perfectly impossible for any novice in the diseases of women, to obtain an accurate notion as to the condition of the vaginal mucous surface of the os and cervix, and to some extent of the interior of the uterine canal, without the constant, I would almost say, invariable use of the speculum. It is also quite as impossible for that novice to form any notion as to the position of the fundus, or the relations of the uterus with the pelvic tumor, without the employment of the sound. But no practitioner can possibly be regarded as an accomplished specialist, at least by me, who uses one or the other of these instruments with great frequency. I have found in my own practice, that just as my experience increased, so did both of them become unnecessary, until, concerning the speculum, it is a fact, that unless I want to do some operation, or make some special investigation within or beyond the vaginal cavity, the speculum is never employed at all; and for the discovery of the position of the uterus and its relations, the sound has almost ceased to be an advantage."

Again: "It is perfectly impossible for me to convey by any kind of description how I can tell by the touch, an inflamed vaginal mucous surface from one that is healthy; neither can I describe the feeling that the everted surface of the cervix gives to me, which declares the condition of chronic endometritis. But I know that my educated finger-tips can make this distinction. If, on the other hand, I discover a pelvic tumor, long practice enables me to tell with almost perfect certainty, and without the use of the sound, that it is a retroverted fundus, or adherent tube or ovary, or by its fading away toward the

broad ligament on one aspect of the uterus or another, that it is an intra-peritoneal hæmatocele ; while the peculiar resistance of a myoma conveys to my mind an accurate impression which needs no probing of the uterus to substantiate. So a cyst reveals itself in a way that I cannot communicate. As a result of all this, I very rarely use the sound. As a matter of fact, I have found that these two instruments, the speculum and the sound, as methods of diagnosis, have been productive of uniformly more harm than good."

I have made this, peradventure, all too lengthy quotation from Mr. Tait's paper, not for the purpose of endorsing it as a whole—for I most deferentially, but decidedly, dissent from that portion which pertains to the speculum—but simply with the design of showing what a master may do with his educated finger-tips ; and, still further, to show how unnecessary to him may become many of those instruments that he formerly regarded as essential, after he has taught his finger-ends such knowledge.

Not every man who practices the gynæcological art can expect to become a Tait—it were not well, probably, for many to become, in all respects, such as he—but all may do something towards improving their tactile sensitiveness ; the attempt, at least, should be made, for just in proportion as its acuteness is developed will a man's efficiency as a clinician strengthen, and correspondingly will his judgment, in doubtful or obscure cases, increase in weight and value.

The sound is nothing less nor more than a prolonged finger, and may therefore properly be dispensed with whenever and wherever the finger itself can be made available, provided it furnishes with accuracy the information sought. It certainly should never be used with any force whatever, its own weight being sufficient to carry it to any place where it can be made of any practical service. Furthermore, the os uteri should always be patulous to even a marked degree whenever it is employed, and the endometrium should likewise be free from any undue tenderness when touched by the sound.

Moreover, when it becomes necessary, from any cause, to appeal to such an instrument, the delicate virgin-silver probe of Sims is a much better and safer one than the Simpson sound, and even this ought never to be passed during a first interview if it were possible to avoid it, nor until one has become quite familiar with the topography, and all peculiarities of the sexual tract of his patient ; nor, further, until it is first wrapped with film of absorbent cotton, to serve as a cushion to the metal.

Against the employment of the uterine sound as a repositor in cases of retroversion, it were scarcely possible to speak in too strong terms. If it is capable of doing harm when simply passed for diagnostic purposes, how much greater must be the danger of setting up formidable inflammatory conditions of the pelvic organs, if it were also employed to pry or rotate the retro-displaced womb into its normal position.

Whoever will make himself familiar with the comparative ease and absolute safety with which a retroverted uterus can be unshipped from

its moorings in the sacral excavation and caused to float in the cavity of the abdomen, through the intervention of the genu-pectoral posture, and the facilities for manipulation which it affords, will, I am very sure, never resort to the barbarous practice of employing any instrument within the uterine cavity, for the purpose of accomplishing this end. There is, I asseverate, no posterior displacement of the womb which is capable of being restored by any method, or which requires replacement at all, that may not be so replaced by intelligent, and, if need be, persistent manipulation with the patient in the genu-prone attitude.

In conclusion permit me to say, that from an experience and observation extending through a period of some years, and made up from a goodly number and variety of cases, I am prepared to corroborate Mr. Tait's remarks, just quoted, concerning the present inutility of the sound. It has played a good part in teaching us how to use our fingers to a much better advantage than was possible before its day, but it can now, with propriety, be laid aside in much of the gynæcological work where it was formerly deemed necessary. The importance of training the finger-tips to a high state of tactile erudition cannot well be over-estimated, and, with its approach to that degree of perfection, which has for Mr. Tait a conspicuous exemplar, the necessity for the frequent employment of the sound will gradually cease; until finally, let it be hoped, we shall thus soon be rid of much of the opprobrium which the young and growing art of gynæcology is now compelled to suffer.

350. ENDOMETRIUM, Diseases of the. The Application of Intra-Uterine Pressure by the Tampon.—DR. V. H. TALIAFERRO, in the *Atlanta Med. and Surg. Journal*.—As a therapeutic measure, the *intra-uterine* tampon is simple, safe and marvelous. Chronic inflammation, granular erosions, mucous fungosities, together with the usual subinvolution, rapidly disappear under the influence of the pressure. With the proper observance of the contra-indications, to all intra-uterine applications, the remedy is perfectly safe. It should, of course, never be used when there is the vestige of inflammation in the peri-uterine structures. I have now a patient at my private infirmary whose uterus has been packed from the fundus to the end of the cervix for more than a month, who rarely goes to bed, except by my instructions, for some hours immediately following the application. So long as there is sufficient oozing of blood to saturate the tampon, it is removed and re-applied daily; otherwise it remains for two days. If iodoform is used with the packing, as should always be done, the patient is secure against sepsis, the dressing removed being clean and free from odor, though it remain for days. I not unfrequently leave it alone for three days.

The patient is placed in the knee-chest position, or Sims' semi-prone, and the perineum retracted with a Sims speculum, or with any perineal retractor. I use my own speculum, as it separates the vulva and vaginal orifice better, and gives a more satis-

factory command of the parts. The anterior lip of the cervix is seized with a tenaculum and the uterus lifted forward toward the vaginal outlet. A little pledget or roll of cotton, with a thread wound about it, is now seized with the dressing forceps (with small blades) and carried in the uterus quite to the fundus; this being done the blades are sufficiently separated to loosen their hold and partially removed, and the cotton roll caught in a new place and carried up, as was the first, the manœuvre being repeated again and again until the little roll is thoroughly packed away in the uterus. These little cotton rolls are repeated one on another until the entire cavity is filled. Each piece of cotton is wound about with strong spool thread with a long end left to better facilitate and insure removal. The size and length of the cotton roll should correspond with size and depth of cavity to be filled. I have packed as much as one and three-quarter yards of lamp-wick in a single piece in the cavity of the body. The cavity in this case was unusually large and filled with granulations. I tried the lamp-wick because of its convenience, but discarded it on account of its hardness and want of elasticity. Nothing does so well as *new clean cotton*. The new cotton does not need washing or other preparation. Absorbent cotton does not do so well—it packs too hard and is inelastic. I usually get clean sample cotton from the cotton factors. In this way we can feel sure of using an article that has never been in use. In the *beginning* of the treatment in ordinary endometritis the tampon should not be carried further than just within the internal os—the cavity being gradually and carefully encroached upon until the fundus is reached. When the uterus is filled with fungus granulations the tampon should be carried at once to the fundus. The intra-uterine tampon should always be accompanied by a small but firm vaginal tampon—using glycerine and iodoform on the first pledgets. The patient should be kept in bed for some hours following the treatment, or if there be pain, so long as this continues. If pain is persistent the tampon should be removed. The following cases, treated conjointly by my associate, Dr. Noble, and myself, are selected because of their usually intractable nature and the slow and unsatisfactory results of the ordinary methods of treatment. Dr. Noble has been kind enough to write out these cases for me, and I give them just as prepared, vouching for their accuracy in every detail. It will be seen that the first case dates back more than two years ago. Since this time Dr. Noble and myself have treated many cases by this method, and I give it now to the profession for the first time in detail, with the assurance of its safety and inestimable value:

In 1871, and while living at Columbus, Ga., I published a paper upon “Uterine *cloth tents* in diseases of the body and cavity of the uterus.” In that paper the following language is used: “For some years previous to the adoption of the cloth tent I had used strips of cloth or linen saturated with Churchill’s tincture of iodine, solution of carbolic acid, or other substances to be used. One end of the strip, folded over the point of a small probe, was passed to the fundus of

the uterus; the probe being withdrawn, was again and again introduced, carrying with it at each time an additional fold of the cloth until the cavity was completely *packed*. This *packing* was permitted to remain until expelled by the contractions of the uterus, which required usually from six to twelve hours. The firmer the packing the more active the contractions and the quicker its expulsion. It was to avoid unnecessary contractile action and to make the strips self-retaining that led to the idea of rolling the cloth or linen strip into a tent, and thus the better to control, by its size and length, the contractions of the uterus, and to secure its retention for any desirable length of time."

Thus it will be seen that several years before the publication of this paper, in 1871, I was in the habit of *packing* the uterine cavity. I did not then know the value of the *pressure* I had secured by the intra-uterine tampon, the object then being the thorough medication it afforded. Thus, for the time being, slipped from my hands a remedy of marvelous power.

It will be observed that the intra-uterine packings were usually expelled by the contractions of the uterus induced by its pressure. I have since learned that this occurred then, as it does now, in a certain class of cases: where there is simply mucus inflammation, with more or less sensitiveness. Where there is a large patulous cavity none occurs, nor does it occur in any case if the uterine cavity is slowly and gradually encroached upon and tolerance induced.

Case 1.—This case is reported because it was the first upon which we used the intra-uterine tampon. The patient was large, obese and anæmic—almost completely exsanguinated. Her health had been good up to her last confinement, two years prior to the commencement of her treatment. In that labor the cervix sustained a laceration on either side to the vaginal junction.

She had the usual train of symptoms dependent upon such a lesion and upon sub-involution. Six months after labor she began to have hæmorrhage from the uterus, which continued almost constantly for eighteen months. There was vesical tenesmus. The bowels were constipated, digestion greatly impaired and strength gone. She was confined to bed from sheer exhaustion.

The perineum was partially lacerated. The uterus was about the size of a three months' pregnancy and prolapsed to the floor of the pelvis. There was great eversion of both the anterior and posterior lips, with granular degeneration or fungosities of the endometrium. The cervical canal and internal os were quite patulous, which permitted thorough exploration. A slight touch was sufficient to produce a hæmorrhage, serious to a person in her condition.

The treatment consisted in the proper regulation of diet, nourishing food, tonics, etc., with daily iodoform and glycerine dressings, in the vagina, of sufficient firmness to control the hæmorrhage.

In four days she recovered strength enough to sit in an easy chair the greater part of the day, and at the end of a week walked from the

house to the street. Seven days later she walked one-third of a mile. At this time, the end of the second week, the bleeding was so free when the tampon was removed from the vagina that it was useless to attempt to keep it sponged away. It was therefore decided to pack the cavity to stop it. This we did daily, as described by Dr. Taliaferro himself.

The improvement was marked as it progressed by a gradual decrease in the bleeding at each treatment, and in a few days by the appearance of pus, which gradually increased as the packing went on. Immediately following the removal of first few dressings there was very free bleeding, but this was of no moment, as it was quickly checked by the fresh packing.

We continued this treatment for eight weeks, at the end of which time there was not even a stain of blood upon the cotton as it came away. We subsequently found to our astonishment that we came near producing atrophy of the uterus, as that organ was just a little under the normal size for a multipara.

Case 2.—I report this case because of its most unfavorable condition for such treatment. In fact it was contra-indicated. The patient was a small Irish woman with a history of good health up to two years prior to the time I first saw her. Her trouble began with a miscarriage, complicated with bilateral laceration of the cervix and post-partum hæmorrhage. She said the placenta was removed by the hand. The usual train of symptoms accompanying this laceration and sub-involution followed with occasionally an attack of peri-uterine inflammation. She had metrorrhagia for two months before I saw her, for which she was treated by another physician with tents. This resulted in peri-uterine inflammation and a very great increase of the bleeding. Tamponing the vagina was required to check it.

Though active inflammation had been going on, she bled until she was reduced to a sub-normal temperature when I first saw her. At the end of two weeks the inflammation had subsided, and an exploration of the pelvic organs was made. The uterus was nearly as large as an infant's head, almost filling the pelvic cavity. Some inflammatory deposits were in the broad ligaments, yet the womb was slightly movable. The cervical portion of the os was three inches in diameter and very greatly congested. A slight brush would remove the epithelium and set up a profuse oozing of blood from the cervico-vaginal mucous membrane. The os and cavity was granular. The cervical canal and internal os were very much dilated. The lips were very much enlarged. The anterior lip was about the size of a black walnut and felt like a fibroid induration. During my absence from the State she had a recurrence of her menorrhagia, and I returned in time to check it just as it had increased to a hæmorrhage that bled her almost to syncope while lying in bed. Her circulation was in a very feeble condition from the loss of blood.

I began the uterine packing at once, as she had no more blood to spare, guarding it with a vaginal tampon. Each treatment was fol-

lowed by a decrease of blood and a corresponding improvement in strength. At first the uterine cavity seemed to dilate until I could pack three little soft twists of absorbent cotton about half the size of a lead pencil and about fourteen inches long into it. Then it began to give her pain—a bearing-down pain—for about two hours after its introduction. As the improvement went on the uterus contracted more firmly until finally it threw the whole dressing into the vagina. The blood had ceased to stain the dressing for three weeks, and as other evidences of disease had disappeared, I decided to leave the treatment off for a few days that I might determine the size of the uterus. This I found was normal, and as she refused an operation on the cervix, the case was dismissed, at the end of the fifth week, cured—all but the cervical rupture.

This case is interesting from the fact that such a large sub-involuted uterus was cured in five weeks, and from the fact that this treatment followed without detriment an attack of peri-uterine inflammation, while there yet remained inflammatory deposits in the pelvis.

Case 3.—This case is an inmate of our infirmary and still under treatment. She is a large and corpulent woman, very anæmic, has been unwell since her last child-birth, thirteen years ago, and bleeding from the uterus for five years almost constantly. Slight exertion caused a great increase in the flow; she was therefore confined to the bed a great part of the time. She gave no history of peri-uterine inflammation. The uterus was sub-involuted, and fully as large as a three-months pregnancy. There were large fungus granulations throughout the cavity extending to the external os. Deep lacerations of the cervix extended on both sides to the vaginal junction. There was great distress and soreness in the rectum, due to the presence of a hard ball of fecal matter. This mass was about the size of an orange, somewhat oblong and pointed at the lower extremity. For thirteen months it had been presenting at the anus during defæcation, receding to the sigmoid flexure when the bowel was inactive. The act of defæcation caused great pain and distressing tenesmus.

A surgeon of acknowledged reputation visited her at her home in a distant portion of this State, and as she states made a diagnosis of fibroid tumor of the uterus and stretched the sphincter ani. The day of her entrance to our infirmary, I pressed the mass down in the pelvis with one hand from above the brim, and by the aid of my finger and ox-gall enematas completely cleared the rectum. This put an immediate end to the painful defæcation. The following day we began the intra-uterine packing with little rolls of cotton about half the size of a lead pencil and about fifteen inches long. One of these was passed through the patulous canal into the cavity of the uterus to the fundus, and this followed by others until the whole organ was filled up, and then a firm tampon was placed in the vaginal vault. This latter caused some pain from pressure upon the sore rectum, but the soreness rapidly grew better.

Day after day this treatment was carried out, gradually increasing the length and number of the little cotton twists that were placed in

the v. omb. As the first few dressings were removed the blood welled up from the uterus like a little spring. It was indeed alarming to persons not accustomed to such sights and treatments, but as it was promptly checked by the fresh packing, which was ready to be introduced as soon as the old one was withdrawn, no blood of any consequence was lost. This was repeated at each treatment, but in a less degree, until the end of the third week, when there was only a stain of blood on the dressing.

At this time the length of the packing-twist was one and three-fourth yards. All this was carried beyond the internal os, and about the same quantity or more was packed in the cervix.

At the present writing there is some stain of blood as the dressings are withdrawn, but nothing like a bleeding ever occurs. There is quite a profuse coating of pus upon the cotton when taken away. The cessation of the hæmorrhage, and the appearance of pus show a destruction of the granulations, but the packing is continued for farther reduction of the sub-involution.

The uterus at first seemed to dilate, but now, the fifth week, it is regaining its proper tone and vigor; it seems to contract, and is reducing both in volume and calibre of its cavity, and we now have to introduce smaller packings.

These cases are reported rather briefly, and many details of the general treatment left out, as it was the effect of the packing that we wish to note. The first case was treated at the office, the second at her residence, and the third is an inmate of our infirmary.

351. PERIMETRITIS.—DR. G. T. HARRISON in the *Virg. Med. Monthly*.—In the whole domain of gynæcology no morbid condition can be mentioned which exceeds perimetritis in pathological significance, or suggests a more fruitful topic for study, whether regarded from an ætiological, diagnostic, or therapeutical point of view. Especially of late has this theme acquired new interest, from the fact that the disease to which it relates has been more and more brought within the sphere of operative surgery. The problem presented for solution is to know beforehand what class of cases *demand* for their relief surgical procedures—more particularly laparotomy—and what class of cases there are, on the contrary, in which interference of a surgical character is strictly *contra-indicated*.

While much light has been thrown upon all questions pertaining to perimetritis within the last few years by bacteriological investigations and by clinical investigations, gained especially in laparotomies, it cannot be said that the subject has reached such an advanced stage of development as to admit of dogmatic exposition. Our present attainments should be regarded as but stepping-stones to firmer ground, to be reached hereafter.

It is well to bear in mind, at the outset of this discussion, that inflammations of the pelvic peritoneum have a different significance and manifest different symptoms according as they are caused by infection from without or not. Most forms of perimetritis are indis-

putably due to infection from without, though the existence of a benign form cannot be denied, however difficult we may find the explanation of its pathology. After the manner of Schröder, we may therefore discriminate the following forms:

1. A benign non-infectious perimetritis.
2. An infectious perimetritis; and this latter group may be subdivided into
 - (a) Septic form of perimetritis.
 - (b) Gonorrhœal form.

First, then, let us direct our attention to the *benign form*. During the sexual life of woman, the uterus and its appendages are subjected to many accidents and vicissitudes, which result in inflammatory disorders, and in which the peritoneum may participate to a greater or less extent. Backward displacement of the uterus is ordinarily attended by hyperæmia; and, as a consequence, partial perimetritis may be induced, which leads to adhesions of the uterus to the adjacent parts. In the same way prolapsus of the ovary is often associated with a partial peritonitis. Ovarian cystomata not infrequently give rise to this form of perimetritis in consequence of the rupture of one of their component cysts, and escape of the contents into the abdominal cavity. Called into existence by causes such as these, the benign form of peritonitis has as its anatomical characteristics pseudomembranes and adhesions of the most manifold description. The constituent organs of the pelvis may be found adherent to each other in the most varied manner. The intestines lying in the pelvic cavity may be attached to the posterior surface of the uterus, or to the ligamentum latum; or they may be intimately connected with the ovary or tube, or the tubes may be flexed by cords, or fastened to the side of the pelvis, or even bent backward and tied to the posterior face of the uterus.

It is certainly a subject of wonder that these mighty changes are brought about with so few and such trivial symptoms. The symptoms, in fact, we are wont to associate with peritonitis are not present—as pain, vomiting, meteorism, a small, frequent pulse, and an anxious, pinched expression of the face. How often is the ovariologist astonished at the magnitude and extent of the adhesions, on exposing the abdominal cavity, in cases in which he could not demonstrate the existence of peritonitis previously to the time of the operation! The pseudomembranes exhibit great diversities in regard to thickness and extent. They may appear as bands or cords, or they may separate portions of the pelvis from the remainder of the general peritoneal cavity. Into the spaces thus formed, serous or sero-fibrinous effusions take place.

The *infectious forms of perimetritis*, as modern bacteriological research has shown, are evoked by micro-organisms, which gain admission into the body, and there unfold their activities. Says Schröder:—"At present, omitting erysipelas and diphtheria, we are only able to discriminate, strictly and exactly, two forms of bacterial infection—the *septic*, in the wider sense, and the *gonorrhœal*. In the septic form also, we have to deal with different forms of micro-

organisms, and with considerable differences in the course of the disease ; but at the present moment we are not able to discriminate them with exactness. The infection which leads to septic, partial or general peritonitis, either invades the abdominal cavity through the uterus and the tubes, following the course of the mucous membrane, or the micro-organisms make their way through a gap (wound) in the covering tissue into the connective tissue, penetrating into its spaces or into the lymph and blood-vessels, and attain to the peritoneum, and advance beyond it."

Septic infection occurs almost always after childbirth, or in consequence of a gynæcological operative procedure—the *materia peccans*, gaining admission into the organism through a wound which has been made at some point along the genital tract. The micro-organism, potent in the production of the infection, is mainly, so far as our present bacteriological knowledge gives us information, the chain-forming micrococcus, or Rosenboch's streptococcus pyogenes.

On autopsy, after this form of perimetritis, we find in some cases a small quantity of fluid containing large quantities of micrococci ; in other cases there is an excessive amount of a purulent fluid, or the exudation of a purulent fibrinous character. The exudation naturally seeks the lowest level, and consequently is often situate in Douglas' cul-de-sac, being shut off from the sound part of the abdominal cavity by pseudo-membranes which unite together loops of the small intestine, parts of the colon, omentum, or uterus with appendages. If the exudation increases in quantity, under these circumstances, we have a condition of things closely simulating retro-uterine hæmatocele—the uterus and ligamentum latum being dislocated forwards towards the symphysis pubis, and the bottom of Douglas' pouch being distended especially in a downward and forward direction, the vagina and rectum being thus largely encroached upon. In those cases where there is a closure of Douglas' space, the result of a previous perimetritic inflammation, a limited exudation may take place into cavities, shut in by pseudo-membranes on either side of the Douglas pouch ; and as the exudation goes on, in view of the fact that the soft tissues beyond yield more readily than the pseudo-membranous expansion above, we may have before us apparently a case of perimetritis. When the exudation is very extensive, under the condition just mentioned, it may fill up the whole of the lower part of the abdominal cavity, extending up to or beyond the umbilicus. Such a case I saw not long since with Dr. A. R. Robinson, of this city, in which there had been a closure of Douglas' pouch in consequence of a previous peritonitis, and in which now the whole of the lower part of the abdominal cavity was occupied by an enormous exudation. These large accumulations of infectious fluid often break their way into the rectum ; less often into the vagina, and now and then into the bladder. I had last year under my professional care a case in which there was a double perforation into the intestines and into the bladder ; it terminated fatally.

The *symptoms* of septic perimetritis are those dependent on the

local inflammation, and those due to the toxic effects of ptomaines, which have been engendered from the proteids of the body by the intervention of the putrefactive and pathogenic bacteria. After a more or less stormy course, in which the integrity of the body is jeopardized to a greater or less degree, there follows an interval during which the exudation undergoes absorption, and the recent adhesions experience a process of shrinkage. Meantime the general condition improves progressively, and as time wears on, is less and less clouded.

The *local annoyances* are those principally emphasized by the patient—pains in the pelvic region, existing either of a permanent character, or undergoing exacerbations from time to time. The evacuation of the bladder and rectum are attended with difficulty and pain—the action of the abdominal muscles, which is called into play in the performance of these functions, having the effect of producing a certain degree of change of place on the part of the exudations. Gradually the pains diminish in intensity and duration; the urine is voided without pain, and only when large fæcal masses are passed is there pain in defæcation. Menstruation, which may have been absent for some time, returns, and all the symptoms show amelioration.

The picture has much deeper shadows when the exudation becomes purulent. In this event, either absorption takes place slowly, accompanied by an intermittent fever, with evening exacerbations and morning intermissions, or the suppurative process continues and the tumor grows, while a fever with morning remissions shows the effects on the system at large. Death may take place from exhaustion, or the abscess may break, and the patient may endure a wretched and pitiable existence for a long time before a more or less complete restoration to health takes place.

Sterility is by no means infrequently a consequence of the changes effected in the genital organs by this form of perimetritis—these changes consisting in constriction or occlusion of the tubes, envelopment of the ovaries by an exudation, and dislocations and fixations of the uterus.

The *gonorrhæal form of perimetritis* exhibits essentially different clinical and anatomical features from those just discussed, which it is of paramount importance to fix in mind. When Dr. E. Nøggerath, of this city, published his brochure upon “latent gonorrhœa in the female sex,” in 1872, his statements were regarded generally as the wildest exaggerations; but gynæcologists, after a more thorough investigation of the subject, have become more and more convinced of the truth of his observations and the correctness of his conclusions. My own views differ from those of Dr. Nøggerath only this far: that while chronic specific urethritis in man *may* evoke that train of symptoms which he so eloquently and faithfully depicts, it does not by any means always produce such results; and that latent gonorrhœa in man is susceptible of cure. I can refer to such an experience as the following in my practice: A young man has consulted me with reference

to symptoms, which proved to be due to a deep-seated urethritis and an incipient stricture. Such a case I have cured by dilatation and injections. The patient has married, and I have attended the wife in four or five confinements. The children have all been born at full term, and she has never exhibited any symptoms whatever of the gonorrhoeal infection.

It has been my endeavor, in my clinical studies of this form of perimetritis, to act on the excellent advice given by Dr. Nœggerath—"to draw into the circle of our investigations not only the woman, but in each individual case to elicit accurately the history of the husband." The following are the results at which Dr. Nœggerath has arrived:

"1. Gonorrhœa in man, as in woman, continues, as a rule, during the whole of life, in spite of apparent cure.

"2. There is a latent gonorrhœa in man, as in woman.

"3. Latent gonorrhœa in man, as in woman, may evoke in a hitherto sound individual either a latent gonorrhœa or the phenomena of acute gonorrhœa.

"4. Latent gonorrhœa in woman manifests itself in the course of time by acute, chronic, recurring perimetritis or ovaritis, and as catarrh of particular parts of the genital mucous membrane.

"5. The wives of men who at some time of their lives have had gonorrhœa are, as a rule, sterile.

"6. Those who become pregnant either abort or only give birth to one child. Exceptionally, they bear three or four children.

"7. Out of the secretion of those affected with a latent gonorrhœa a fungus may be cultivated which is completely analogous to that derived from the florid gonorrhœal secretion in man."

I can heartily subscribe to the estimate which Sænger places upon the researches of Nœggerath when he says, "the recognition of the ætiological connection of severe disease of the sexual organs with gonorrhœa, by Nœggerath, is for gynæcology a performance scarcely less than that of Semmelweis for obstetrics."

On account of the great importance of the subject, I quote this author's criticism upon Nœggerath's classification, and give *his*, though it is somewhat of a digression from my proper theme. "Nœggerath's classification," he remarks, "of latent gonorrhœa into (1) acute perimetritis, (2) recurring perimetritis, (3) chronic perimetritis, (4) ovaritis, has many defects. It is tautological and one-sided, as it selects at random some forms of disease only, and especially allows no place for the tubes. The idea 'latent gonorrhœa' can, at the most, be regarded in a subjective sense; it will generally be possible to demonstrate signs of the disease objectively." The following is the classification proposed by Sænger: "*Acute and chronic gonorrhœa of the uro-genital organs.*"

"I. Urethra, bladder, kidneys.

"II. Vulva and its glands.

"III. Vagina, uterus (gonorrhœal catarrhs).

"IV. Uterine appendages:

- (1) Tubes: Salpingitis and pyo-salpingitis, peri-salpingitis (extension from within without).
- (2) Ovaries: Peri-öophoritis, öophoritis and abscess of the ovary (extension from without within, or from the hilus ovarii).
- “V. Parametrium and cellular tissue of the ligamenta lata; phlegmon paracervicalis, parauterina (parametritis), pelvica phlegmon ligamenti lati. (Säenger saw one case of abscess of the right ligamentum latum in purulent salpingitis.)
- “VI. Pelvi-peritonæum and serosa of the ligamenta lata; pelvi-peritonitis (perimetritis) unilateralis; pelvi-peritonitis diffusa.”

The beautiful studies of Bumm have contributed much to our knowledge of the mode of infection in gonorrhœal inflammations. Neisser discovered the pathogenic micro-organism, diplococcus, which is the bearer of infection in gonorrhœa. According to Bumm, the most frequent seat of gonorrhœa in women is the mucous membrane of the cervix. “In fresh cases,” he observes, “we meet there a swelling of the inflamed and reddened mucous membrane of high degree, which protrudes through the opening of the orifice, as in acute gonorrhœa of the urethra, and on pressure with the speculum permits the escape of the ominous drop of pus. The secretion remains for weeks purulent, and contains, besides distended epithelial cells and multinuclear pus cells, heaps of gonococci, partly enclosed by a cellular body, partly free; other organisms are completely wanting, or are extremely rare, a circumstance which naturally simplifies and facilitates the diagnosis of gonorrhœa.” The gonococci find in the urethra also favorable conditions for the display of their special activities.

On the contrary, Bumm denies the existence of a true vaginal gonorrhœa, as he believes that the anatomical character of the vaginal mucous membrane is such that it is not possible for the specific micro-organisms to penetrate deep into the mucosa. The vagina, however, subserves the purpose of a receptacle and brooding-place for the contagium under certain circumstances. When the vulvo-vaginal glands are the seat of a suppurative process, it may be assumed as almost a certainty that it is a case of gonorrhœal infection.

From the cervix the gonococci attain to the mucous membrane of the uterus, and thence into the tubes. Here they produce the most important and the most persistent changes from the normal condition. Through the medium of the tubes, finally, the peritoneum is involved. The specific inflammation penetrates through the thickened walls of the tubes, and attacks their serous investment, producing pseudo-membranous deposits and adhesions, or the gonococci attain to the swollen and reddened fimbriated extremities of the tubes, and give rise here to local adhesive peritonitis.

The view of Säenger is probably correct, that the pelvi-peritoneal exudations perhaps always originate after the escape of pus from the

tubes, while the latent insidious perimetritic forms of inflammation are propagated from the diseased wall of the tube. As a consequence of this specific form of inflammation, the occluded tube is distorted into convolutions and flexures, and is distended with a greenish purulent fluid. One convolution is often found before, and another behind the ovary—the contents of the pelvis being matted together into a confused coherent mass.

Let us now endeavor to sketch the *clinical picture* of this form of perimetritis: At times the symptoms develop so slowly and insidiously that the patient cannot date her symptoms back to any particular time when she was aware of their commencement. Besides pains in the hypogastrium, and a frequent desire to urinate, she may have complained of few positive and definite symptoms, and the physician is consulted rather on account of sterility than from any other cause. In other cases the patient has never felt well since marriage, and grows progressively worse, although her complaints are not of a definite character, and often seduce the unwary practitioner into the diagnosis of hysteria, until all of a sudden there is an acute perimetritis, with pain and elevation of temperature—there being no apparent cause for such an attack. This attack may last some time—the patient suffering very severe pains in the pelvis—the evacuation of the bladder and rectum giving rise to exceedingly annoying sensations. Improvement takes place slowly, and the general condition never becomes satisfactory.

There are recurrent attacks of perimetritis, which are very characteristic. Usually, however, this form of perimetritis is distinguished by its chronic development—the commencement being often indicated by a frequent desire to void the urine. The patient complains of vague pains in the hypogastrium, incapacity to do any work requiring steady effort, and she has no pleasure in existence. Either diarrhoea or constipation is complained of. Dyspareunia is a not infrequent symptom in these cases; it is partly to be ascribed to the increase of the already existing sensibility in consequence of the hyperæmia evoked; but partly also to the traction exerted on the adhesions of the uterus. The nutrition of the patient suffers greatly; so that, in the language of Veit, we can speak of a cachexia gonorrhœa.

(To be Continued.)

352. UTERINE Cancer, The Early Diagnosis of.—*Phila. Med. Times.*—PROFESSOR PALMER, of Cincinnati, in a paper read before the Academy of Medicine of that city gave his views upon this important topic, as follows: Cancer is a disease three times more frequent in the uterus than in any other organ of the body. It is occurring with increasing frequency. This increase is largely apparent, the result very naturally of improved methods in diagnosis and more frequent examinations.

The benign affections which may be confounded with cancer are

chronic inflammations, eversions, granular and cystic degenerations, and ectropium.

Nothing can be easier than the diagnosis of most of the benign diseases of the cervix uteri; nothing can be plainer than the determination of the presence of advanced cancer of this part of the uterus, by far the most common site. It is of vital importance that we recognize a malignant disease early if we would do any radical or permanent good, and mistakes are most generally made in the earlier stages of the disease.

For practical purposes he divided the subject into two parts:

1. The form of cancer simulating or confounded with parenchymatous or fibrous benign diseases of the cervix.

2. The form of cancer mistaken for, simulating, or simulated by endometrial benign disease.

Probably the origin of cancer begins in a degeneration of the connective-tissue cells, either under the mucous membrane on the vaginal face of the cervix or up within the cervical canal, while the epithelial growths or ulcerations first invade the superficial epithelium. A carcinomatous infiltration arising within the connective-tissue cells of the cervix at once heightens the vascularity of the part, which looks reddish or bluish in color. It produces nodulations more or less hard, and diminishes the mobility of the subjacent mucous membrane. Should these changes start in a cervix previously healthy, or so little diseased as to excite no special attention, they progress so insidiously, it may be slowly, that in all probability the patient will not call on her physician until the second or ulcerative stage has advanced; or should they commence in a cervix already diseased by chronic inflammation, one that is being inspected for treatment from time to time, they may even advance to a considerable degree before any special suspicion is excited. The general health may be good or bad. The author thought that in most instances a diagnosis could now be made. The one thing needful is that a suspicion of malignancy be aroused. The symptom of Spiegelberg is not as reliable as was first supposed. Much can be learned by watching the development of treatment. It may be observed that while all the local conditions (leucorrhœa, erosion, induration, etc.) do improve under a well-directed local treatment, provided they are the offspring of an inflammation, yet if malignant they do not improve at all, and if so but slightly, never permanently. They manifest a special obstinacy to treatment; in fact, they progressively get worse. In women of advanced years such development should excite the gravest suspicions. If any doubts now remain, resort should be made to the microscope. I doubt if the microscopist can give us a reliable opinion without any other clinical evidences at hand, but with them the microscope becomes strongly corroborative and confirmatory. Fungoid degenerations may remain for a long time innocent formations, yet, on the other hand, they may quickly develop into malignancy. This transformation may be exceedingly slow, consuming years. This is important to remember, so that we may not be thrown off our guard. Unquestionably, malignant epi-

theliomatous degeneration is more likely to ensue in cases of cervical laceration in which the torn surfaces never cicatrize. Cicatrization, however, is not a barrier. The author recommended the use of the microscope and all other means of diagnosis, and thought the topical applications of glycerites of tannin, alum, and boracic acid to be of especial benefit in diagnosis.

353. HYSTERICAL Amaurosis.—*London Med. Record.*—DR. CASTELLARNAU publishes the following case of hysterical amaurosis in the *Bulletin de Hydrotherapia* of Barcelona. A lady, aged 32, married, without children, of nervous temperament and weak constitution, had suffered from hysteria from a very early age. While working with a sewing-machine she noticed that for some reason it stopped, and, stooping over it to discover the cause she pricked herself with the needle in the left superciliary region. She was very frightened, and thought she had put her eye out. An attack of hysterio-epilepsy, such as she never had before, supervened. On recovering, she found that she was totally blind. No lesion of the eyes could be discovered; but, though she was treated by several medical men, no improvement resulted. She was then transferred to Barcelona for further advice, where, after four months' hydro-therapeutic treatment, she completely recovered.

354. NEUROSIS at the Symphysis Pubis: Its Relation to Hystericalgia.—DR. H. LEIBINGER in the *Wein Med. Wochenschrift*. Translated by Dr. Lilienthal for the *Med. Advance*.—Character of the disease: Intense boring and stitching pain, localized at the symphysis pubis; following the ligaments and fascia, it usually radiates towards the inguinal region, towards the anterior upper iliac spine, towards the perineum and thighs. The pain is never like labor-pain. The inguinal regions are very little sensitive to pressure, the hypogastric region never; the uterus shows no anomaly; rectum and bladder perform their functions normally. The pains are nearly constant, with paroxysmal aggravations, during which the patient in a sitting position with extended legs may pass days, till she is brought forcibly in a horizontal position, affording her considerable amelioration. After passing some time immovably in a horizontal position, great momentary relief was obtained by passive motion of the thighs in the direction towards the pelvis, so that thus the pelvic bones were pushed towards one another. The skin over the symphysis pubis is more sensitive to the superficial touch than to strong pressure. *Puncta dolorosa* were observed at the ligamentum arcuatum superioris and inferioris; the most sensitive point to the touch is the ligamentous part at the posterior wall of the symphysis, and hence the patients dread manual internal exploration, as the examining hand pushes against the symphysis; the pain in touching the uterus becomes intense, as soon as the sound passes the upper part of the cervical canal and enters the os internum uteri, because at that moment the examining hand exerts the greatest pressure on the symphysis.

The similarity of this affection with articular neurosis is clear, as both have these symptoms in common :

(1) Intense painfulness, though no pathological changes can be detected.

(2) Puncta dolorosa.

(3) Over-sensitiveness of the skin to slight touch, whereas strong pressure is well borne.

(4) Failure of usual treatment, till we attend to it as an articular neurosis.

It is easily understood how mistakes in diagnosis are possible, for (1) hysteralgia is found in the same region ; (2) the lower segment of the uterus was considered the seat of the disease, and this part of the womb is close to the symphysis pubis. Both affections are rare. Scanzoni observed it only 19 times, and the patients suffered for years intolerable pains, so that he says: "Hysteralgia differs from the pains caused by organic affections of the uterine parenchyma by its long duration for years, by the absence of perfectly painless intervals, by its fixation to a certain point, limited to the lower segment of the uterus." (3) The pain in hysteralgia is never like labor-pain. (4) The position of the patient with widely extended legs hints far more to an affection of the symphysis than to an uterine affection. (5) The treatment of hysteralgia, as deep scarification of the vaginal portion, repeated leeching, dilatation of the cervical canal with sounds or compressed sponges; application of ice, even cauterization of the vaginal portion with the ferrum candens (Nonnet) fails; whereas the usual treatment for articular neurosis yields good and comparatively rapid effects, as a case considered incurable was entirely relieved inside of four months.

355. NON-PUERPERAL Pelvic Cellulitis, Remarks on.—DR. A. J. RUSSELL in the *Denver Med Times*.—It is not my intention to relate the common details of treatment employed for the purpose of subduing these ordinary cases of inflammations when once lighted up. But it is my desire to show that they have a strong natural tendency to take care of themselves, that if they terminate in suppuration—which unfortunately is too often the case—they still do not require bold or hazardous operations for their relief. That their behavior is largely the same, or to put it more clearly, that after suppuration they commonly do the same thing, which thing is to soften or point in certain directions, and that these natural directions should be remembered and allowed to guide us when at all practical in determining our method of surgical interference. That the cutting into them through either the vaginal or rectal wall is a dangerous procedure, and that it is the operation above all others most likely to be followed by secondary septic invasion, as well as unlooked for complications, either at the time of operating or as subsequent sequelæ.

Recalling the anatomy of the parts, we see that the sub-peritoneal space is packed in and filled up with this loose, fatty cell tissue wherever this room is not occupied by the pelvic organs proper. Cer-

tain regions again are more abundantly supplied than others with this tissue, for instance, between the folds of the broad ligaments, and especially in the immediate neighborhood of junction of these peritoneal duplications with the sides of the uterus. Besides this tissue there is a conglomerate network of lymphatic vessels intertwining with blood vessels of important size, both veins and arteries, while overhanging all this, is a movable canopy, we find the loose and yielding folds of peritoneum naturally providing against its own rupture and the consequent admission of pus within the peritoneal sack above; hence we can understand the *rare occurrence* of a pelvic abscess emptying into the peritoneal cavity, and also the infrequency of extensive peritonitis as a complication in this disorder. I do not now recall a single case in my own practice where I have had either a general peritonitis, or an escape of pus into the abdominal cavity. Judging from what we have seen then to be true, concerning the distribution of these various tissues, and bearing in mind that the lymphatic vessels and cellular substances are to be found most abundantly at the juncture of the broad ligaments with the sides of the uterus upon their under surface, and that it is just here where we most frequently find the greatest tenderness in the majority of our cases of inflammation as we meet with them in our daily practice upon the gynæcological table, knowing also the influence of gravitation in determining the course and direction, both as to burrowing and pocketing of pus, and how readily fluids settle down towards the floor of the pelvis, and get beneath Douglas' *cul de sac*, I take it to be a fair inference, at least, to regard the lower segment of the pelvic cavity as being most frequently the site of these inflammations; and that we would naturally expect to get what I have found to be a fact in the majority of my cases, *i. e.*, freedom from serious peritoneal complications pointing in certain directions, and these directions to be downward towards the rectum and vagina in the order just named. I am, of course, to be understood that there are exceptions to this, the same as to all general rules.

That these inflammations often terminate by resolutions, and in this way—take care of themselves—if not meddled with too much, need only be questioned long enough to allow you to recall cases where the symptoms and severity of the onset all pointed towards rapid breaking down of the tissues involved, and yet the case terminated without abscess. I have seen patients with pulse and temperature above a hundred following a chill, with great tenderness and induration of pelvic cell tissue, remain sick in bed for a week or ten days and get well without suppuration. These cases got hot douches, leeches to the perineum, calomel purges—at the start—then hot poultices, refrigerant draughts and absolute recumbency. It is the practice of some good surgeons to make explorative punctures into this sub-peritoneal mass as soon as suppuration is suspected, reasoning that if they don't find pus they may get a certain amount of serum to escape and thereby change the aspect of the case in a favorable manner. I have tried this plan and now regard it as hazardous, and liable to be followed by bad results. It will be likely to excite increased pain and throbbing, aggra-

vate the inflammation, and possibly convert the case into one of supuration, which may have subsided by resolution, and so, unless we are reasonably certain of an abscess having formed, we had better withhold from stabbing into these parts until there is something definite to repay us.

It is also running an unnecessary risk to cut deeply into this cavity through the vagina or rectum after pus, for the uterine and spermatic vessels are somewhat uncertain in their tortuous course, and the accidental wounding of one of these would give rise to great embarrassment. Indeed, I would scarcely know how to ligate here, short of a laparotomy. It must also be remembered that the whole cavity gets filled up with a mass of plastic tissue which draws everything out of place and firmly imbeds important organs in the boggy tissues. The posterior wall of the bladder is *especially* liable to be pulled backwards.

To prove that great care must sometimes be used in making these exploratory incisions, I need only to refer to the case mentioned in my last paper, and with which some of you are acquainted, where the surgeon accidentally cut into this posterior wall of the bladder, establishing a vesico-vaginal fistula high up in the fornix, which I closed with great difficulty for his patient some twelve months afterwards. This brings me now to the consideration of the different methods of getting rid of the pus, and the subsequent treatment of the pyogenic cavity, in order to guard against secondary septic invasion—the real source of danger.

I said in the beginning of this paper that cutting through the vaginal or rectal tubes for the purpose of finding a way into these abscesses had in my hands proved least satisfactory. The immediate complications liable to be met with by this mode are wounding of the blood vessels and the utter impossibility of *ligating* to control hæmorrhage in case of accident, the possibility of cutting the ureter as it descends towards the base of the bladder and the accidental wounding of the last named organ. The possible subsequent sequelæ are vesico or recto vaginal fistulæ, and chronic septicæmia following the use of the drainage tube necessary after using the knife. Personally, I have had the best results to follow careful *aspiration* and washing the pyogenic cavity with *iodinized* water. Next in satisfactory terminations have been those cases which ruptured spontaneously into the rectum, following these are cases that have broken into the vagina, and least satisfactory of all are those which have been opened by using the knife through either the rectal or vaginal canals. I have come to think there is less danger from septic invasion following the use of a clean aspirator than from any other mode. I believe, also, that it is an efficient means of thoroughly emptying the sac, and that the stimulating and cleansing properties of the iodinated water has the effect of changing the indolent conditions of the pyogenic surface to an active granulating one favorable for ready retraction and rapid healing.

The *great danger*, as I said before, is secondary poisoning, and I

am always haunted with fear after inserting the drainage tube through a vaginal or rectal wall. I would prefer leaving the opening entirely alone after a spontaneous rupture,—watching, of course, for the first signs of septic fever—rather than to insert a drainage tube beforehand.

I saw a case not long since in which the abscess pointed and broke into the vagina. The opening was small and the discharge was slow in its escape, but the patient was getting on safely until the attending physician enlarged the aperture with his knife, when blood poison soon set in and he came very near losing his patient.

I would like to relate now, in order to make my position more clear, a recent case, which will perhaps show how sometimes, under the most *unpromising outlook*, these abscesses will take care of themselves.

On the morning of March 15th, I was called to the bedside of Mrs. B., a tall, well developed young woman, married four years, now pregnant, previous health good—excepting an attack of acute cellulitis some three years ago, which terminated by resolution while under my care. I found her pulse and temperature both above normal. She had passed an uncomfortable night with severe aching pains through the lower part of the abdomen; which distress had gradually grown worse from the first time she noticed it, some three days previous. The trouble was brought on by exposing herself to one of the violent storms which we had in the month of March. In this case the pain and tenderness was chiefly confined to the right inguinal and hypogastric spaces. Active anti-phlogistic measures were immediately commenced, but the difficulty stubbornly increased in spite of all our efforts to subdue the inflammation. She had soon well marked chills—usually in the morning—with sharp evening exacerbations of pain and fever, accompanied by considerable delirium and other head symptoms. The right lower inguinal space was, on the tenth day, well rounded and exquisitely tender. The vagina and rectum slightly, but uniformly bulging. Neighboring tissues as felt through these canals, boggy and resisting, parts hot and dry. No points of softening or other signs of fluctuation discernible, great pain in voiding urine and defæcation when not well influenced by opiates. Her condition continued about this way for another week, when I was requested by the husband, and my patient's mother, who had been telegraphed for in the East, to call in further professional advice. The counsel proved competent and conscientious—two exceeding good traits in a consulting doctor. We failed, after thorough examination, to find evidence of pointing, either towards the vagina, rectum or inguinal space; in fact, it did not point anywhere. Our aim, of course, was to find the quickest and safest way into the abscess, the presence of which neither one of us doubted; owing to the large amount of tissue which would intervene between either the vagina or rectum and the abscess, and the manifest difficulty of washing out the pyogenic cavity afterwards, if opened by the knife from this direction—as urged by myself—and the prejudice which my counsel had against the aspirator—on general principles—and his strong inclination towards laparotomy, I

consented to have him lay the matter before the husband, and I would abide by their combined decision.

After fully understanding the nature of the proposed laparotomy, we promptly got the husband's refusal for our answer. As I could see no positively urgent symptoms demanding immediate interference, we both concluded to watch and wait. In about one week after this the abscess opened into the rectum of its own accord—safely and satisfactorily—a continuous discharge of foetid pus kept up after this for a week or ten days, when it ceased entirely and the patient became convalescent.

I saw her this afternoon and find only the indurated outlines of the pyogenic walls remaining; the tissues are, of course, still tender, but her general health is improving daily, and she is rapidly regaining strength.

This typical case, with its satisfactory termination, is one out of several such which it has been my fortune to encounter, and since I have never seen septic invasion in cases, either of this spontaneous termination or when the sac has been emptied by the aspirator; while on the other hand I have seen blood poisoning and other ugly sequelæ, and known death to follow the use of drainage tubes. You will understand why I am favorably inclined to the one-line treatment and equally opposed to the other.

I think that almost any abscess confined within the pelvic space may be reached and emptied with an aspirator. I don't think as much can always be as safely done with the knife. I don't think it is good practice to open the abscesses too early. I don't think it is a good plan to aspirate through the abdominal walls. If secondary sepsis comes up I would prefer a laparotomy rather than to open up through these tissues from below and trust a drainage tube in either the vagina or rectum.

Concerning laparotomy, I would always regard it as a grave operation in the hands of a general practitioner, and I should not recommend its performance except under peculiar conditions—for it must be remembered that this pus accumulation is *under and beneath* the peritoneal reflections, and in order to reach it by a laparotomy, this important sac forming the peritoneal cavity must be cut and the abdominal space laid open. Such an operation in the master hands of a Tait, who is making these sections daily, and who can turn the case and its subsequent management over into the hands of his own private and well trained nurses, is a very different matter from what it is likely to prove when done by one of us in general practice without this experience or these very great advantages.

356. NON-PUERPERAL Injury of the Vagina.—*In the Vratch (London Med. Record).* DR. ERNEST J. BARTEL details six rare instances of non-puerperal traumatic lesions of the vagina, all of which have come under his observation in the Obukhovskiy Town Hospital during the last eighteen months.

One of the patients, a bootmaker, aged 45, who had had ten pregnancies, and ceased to menstruate four years ago, was admitted in collapse, with uterine hæmorrhage and burning hypogastric pain, which symptoms had appeared about six hours before, in consequence of her drunken husband having introduced a stick into her vagina. There was found a transverse laceration, about 4 centimètres long, situated at the posterior and lateral roof of the vagina and involving the whole thickness of the mucous membrane. Under treatment by plugging, wine, camphor, ice, and subsequently by carbolic injections, the patient recovered, and, ten days later, left the hospital with the rent nearly cicatrized.

A second patient, a cook, aged 47, who had been delivered ten times, and lost the catamenia about three years ago, was sent to the hospital as a case of "uterine cancer;" the symptoms being hæmorrhage, abdominal pain, painful defæcation and micturition, all of them of five days' duration. The examination detected a vertical rent in the left vaginal wall, $6\frac{1}{2}$ centimètres long, beginning about 3 centimètres above the entrance, and ending at the level of the os uteri. A finger freely penetrated into the circumvaginal and circumuterine cellular tissue. The patient refused to give any explanation. Five days later, she died from acute septic parametritis with septicæmia.

A third patient, a cook, aged 28, was admitted as a case of "enteric fever." There was found, however, a lacerated wound, about 6 centimètres long, situated at the posterior vaginal roof, and involving the mucous membrane and muscular coat. No explanation was given by the woman, in spite of all questioning. Seven days later, she died from pyæmia. The *post mortem* examination detected, besides the wound, ecchymosis over the posterior lip of the vaginal portion of the womb, as well as purulent parametritis, ulcerative endocarditis, and gangrenous disintegration of the apex of the right lung.

A fourth patient, a peasant, aged 50, who had had six labors, and ceased to menstruate eight years ago, was sent in as a case of "uterine cancer" with profuse flooding, which had appeared on the night before in consequence of her having been violated by a stranger on the road between St. Petersburg and Tzarskoïe Selo. A lacerated triangular wound at the posterior vaginal roof, 7 centimètres long, was present. A finger easily passed into the circumuterine cellular tissue. Under the local application of iodoform and sublimate injections, rapid cicatrization followed.

In a fifth case, a burgess's wife, aged 19, was brought (by police) in a deadly drunken state, with profuse vaginal hæmorrhage. According to her subsequent statement, she had freely drunk vodka (*aqua vitæ*) and promenaded with a male friend a couple of hours before her admission. When they had come to Mikhailovsky Square, the friend had helped her over the fencing, and himself followed, this being her last recollection. There were found a bruise above the clitoris, laceration of its frænulum, a widely gaping vertical wound, about 7 centimètres long and 3 centimètres deep in its deepest (upper) part, running along the right vaginal wall from the vulva to within a finger's

breadth from the cervix; and, lastly, another superficial oblique rent, about half a centimètre long, situated at the right roof of the vagina. No sutures were used (in that case as in all others); the treatment consisted in powdering with iodoform, and sublimate injections. Recovery was slow, the patient suffering from fever for five weeks. She left on the sixtieth day.

The sixth case was that of a charwoman, aged 42, who had been brought in a deadly drunken state, with acute anæmia from vaginal hæmorrhage of several hours' duration. The bleeding proceeded from a wound passing from the middle of the posterior vaginal wall to the corresponding roof, as well as to the cervix, and penetrating into the circumvaginal connective tissue. No reasonable account was obtained from the patient. Under iodoform treatment, the wound rapidly healed, the patient leaving about a month after her admission.

357. VULVO-RECTAL Fistula from Violence During First Coition.—*Journal of Am. Med. Asso.*—The patient, a young woman of 22 years, presented herself at the gynæcological clinic of the Philadelphia Dispensary, with the following history: Previous to her marriage, which took place eighteen months ago, she had been a perfectly healthy woman. From the first attempt at sexual intercourse with her husband, which caused her to suffer such acute pain that she almost fainted, she dates all her trouble. The sexual act was also followed by severe hæmorrhage, which persisted for a month; the passage of fæces and flatus *per vulvam* was at once noticed. Every repetition of the sexual act for the next two or three weeks was followed by renewed bleeding, and even at the present time she suffers severely during intercourse. The passage of the fæcal matter through the vulva gradually increased in degree until the rectum was evacuated entirely through the vulva. There has been entire inability to retain flatus and fæces. Examination: The finger on entering the vulva passes at once into the rectum through a patulous opening of sufficient size to admit two fingers. Inspection shows a perfectly intact crescentic hymen of moderate thickness and rigidity, having a small anterior opening. Immediately in front of its posterior attachment is an irregular transverse tear, an inch and a half in its longest diameter, with thickened and everted edges, extending backwards and upwards for about one and one-half inches, exposing to view the mucous membrane of the bowel. The vagina is small and has evidently never been entered. The operation, by Dr. Joseph Price, consisted in freshening the edges of the tear, partially loosening the hymen from its attachment and using it as a flap to supply the deficiency. Spotted silk-worm gut sutures were used, and the closure, after the operation, was complete and resulted in perfect union. This form of injury to the vulva is very rare, for although sixteen cases of rupture to the vagina have been reported during late years as occurring during coition, only one of them, recorded by Blumenthal and operated on by Sir Spencer Wells at the Samaritan Hospital, in 1860, bears any resemblance to

the present case, which, from the careful analysis given it by Dr. Harris, is without doubt one of vulvo-rectal fistula. This form of fistula is much less common than the recto-vaginal. The case here reported is of especial interest from the fact that the traumatism undoubtedly occurred during first coition; from the virginal condition of the hymen and from the long time during which sexual relations were maintained under circumstances which must have been disagreeable to both husband and wife. There was no sign or suspicion of specific taint in either man or wife.

DR. R. P. HARRIS remarked that he had seen and examined the patient, and was struck with her emaciation. He inquired of her sister if she had not lost a great deal of flesh since her marriage. This brought out three photographs, all of which represented a short woman of full habit, one of them having been taken two months before her marriage. The sister stated that the patient had no control over her evacuations from the rectum, and that she was being constantly soiled by their escape. But for the fact that the husband had been deprived of his prepuce in infancy, thereby rendering the penis callous by the exposure of the glans to the air, it is hardly possible that he could have forced the organ through the flesh as he did, without so much personal suffering as to compel him to desist. Possibly also the tissues penetrated may have been less resisting than normal. As the arm of a foetus has been known to perforate the rectum and protrude at the anus during labor, without laceration of the perineum, there must be in some women a much less than usual strength in the rectal wall. In considering the emaciation of this woman during the eighteen months of her married life, the question naturally arises, was this condition due to the want of rectal alimentation, to the constant loss of fecal matter, or to the depressing effects of her condition, weakening her appetite and rendering her life miserable? The opening through the fossa naricularis into the rectum corresponded exactly with some of the cases of congenital malformation which Dr. Harris had met with, and particularly with one in a large stout primipara. In her, however, there was a slight anal sphincter, and except when affected with diarrhoea she had control over her evacuations. The only case upon record which corresponds to this was operated upon by Sir Spencer Wells, in December, 1859, at the Samaritan Hospital.

358. FEMALE Sterility, The Causes of.—*Editorial in the Phila. Med. Times.*—The excellent work of the late Dr. A. K. Gardner, of New York, the suggestive and original essays of Dr. Matthews Duncan, and, above all, the epoch-marking book of the lamented Sims, comprise nearly all of value that has been written in English upon the causes and treatment of sterility in women. From German gynecologists a considerable number of contributions to the subject have appeared within the past ten years. The most complete, systematic, and practical of these is a monograph of one hundred and eighty-six pages by Dr. E. H. Kisch, who is a professor in the

University of Prague and chief physician to the famous Marienbad Springs in Bohemia. According to the author, sterility depends upon one of these three general conditions: 1. Inefficient ovulation. 2. Prevention of the fructifying contact between spermatozoa and ovule. 3. Inability of the uterus to secure the development of the ovum. Professor Kisch defines sterility of the female as "that pathological condition in consequence of which a woman during the period of sexual activity fails to become pregnant, notwithstanding frequent and normally-completed sexual intercourse." The statistics of Duncan, Ansell, Simpson, and Kisch show that the average proportion of sterile to fertile marriages is from twelve to fifteen per cent. In fruitful marriages the first child is born within fifteen months after the wedding in nearly two-thirds of the cases; while the first confinement is delayed beyond the third year of married life in less than five per cent. Hence the author considers himself justified in fixing the period at which a married woman who has not borne children is to be considered as sterile at three years after marriage. He fails, however, to take account of that pretty large and evidently growing class of married people who are wilfully sterile. Such cases necessarily vitiate all the statistics bearing upon this question and render them untrustworthy. Sterility necessarily results when the ovaries are absent, atrophied, or insufficiently developed. Early marriages (before the twentieth year) appear to be less fruitful than those entered into after the latter year. After thirty, however, the percentage of sterility increases again. The figures given to show the unfavorable influence of early marriages upon the fecundity of the woman do not seem, however, to bear out absolutely the conclusions of Kisch. Diseases of the ovaries (cystic degeneration, oöphoritis, syphilis, new formations) may cause sterility, but not necessarily. Corpulent women are sterile in a large proportion (nearly one-fourth) of cases. The sterile condition of corpulent women is evidently connected with the frequency of amenorrhœa (deficient ovulation) among this class. The exact relation between corpulence and menstrual irregularities is, however, not understood. The influence of heredity upon the production of sterility is shown in the cases called in England "only-child sterility." The female offspring in such a case can have little hope of experiencing the joys of maternity. As regards the behavior of the uterus during the act of coition, Kisch is inclined to believe that a free secretion of alkaline mucus normally takes place from the cervical glands, which promotes the mobility of the spermatozoa and facilitates their entrance into the uterine cavity. He also thinks it probable that during the stage of orgasm the uterus descends in the pelvis, the cervix becomes rounded, the os uteri and the uterine ends of the tubes dilate, and, after expulsion of the plug of tenacious mucus which fills the cervix, the semen is drawn into the cervical canal. The spermatozoa then make their way through the uterine cavity into the tubes, where they encounter the ovules and impregnation takes place.

Inflammatory and other pathological processes in the pelvis,

whether affecting the organs of generation or their adnexa, may cause sterility. Conical and stenosed cervix uteri, uterine displacements, hypertrophy of the cervix, subinvolution of the uterus, cervical and corporeal catarrhs, latent gonorrhœa, lacerations of the cervix, new formations or malformations of the uterus, vagina, or external genitals, may all prove hindrances to normal contact of spermatozoa and ovule, and thus prevent fecundation. A case is quoted from Hennig, where hydrocele of the round ligament existed; after operation upon the hydrocele, the woman (who had been sterile fourteen years) conceived. Kisch has also observed several cases in whom excessive accumulation of fat in the vulva, with pendulous abdomen, proved obstructions to effective coitus.

Urinary fistulæ must also be regarded as causes of sterility. Kroner has reported sixty cases of fistulæ, in only six of whom conception followed after the accident. Sterility is also a frequent consequence of vaginismus and other pathological states of the external genitals.

Qualitative alterations of the vaginal and uterine secretions may render fecundation impossible by destroying the vitality of the spermatozoa before these can reach the ovule.

Kisch believes that active participation in the sexual act by the woman is necessary to conception. He states that dyspareunia and sterility are so frequently combined that the etiological connection between them cannot be denied. In forty sterile women examined by him with reference to this point, dyspareunia was present in thirty per cent. He instances in support of the view that voluptuous feeling is an important aid in furthering conception the fact that, in the majority of instances, sexual enjoyment is only gradually developed in women. In consequence of this gradual development of sexual feeling, conception does not usually take place until some time after marriage. The time of first conception, he claims, usually coincides with the awakening of this voluptuous sensation in woman. "Thus the capacity for conception is only developed after a sufficiently long practice of the act of copulation" (P. 105.) This rule, if it be a rule, is one with many exceptions.

Masturbation and other unnatural methods of satisfying the sexual desire are also accused of being causative of sterility; but it seems with insufficient reason. These practices are so frequently the accompaniment of other pathological conditions of the sexual organs that it is impossible to ascribe the morbid influence to any special one of them.

An analysis of 3127 cases collected from Mayer, Kammerer, Mondot, V. Grünewalt, Levy, Kulp and Jaquet, L. Meyer, Sims, Beigel, and Kisch, shows that the physical causes of sterility in woman are proportionately as follows: uterine, peri-uterine, and ovarian inflammations in 40 per cent.; uterine displacements in 40 per cent.; structural defects and ulcerations of uterus and cervix in 16 per cent.; uterine tumors in 7 per cent.; vulvitis and vaginitis (including gonor-

rhœa) in 2.6 per cent. ; corpulence in 1.8 per cent. ; ovarian tumors in 1.2 per cent. ; vaginismus and atresia of vagina and hymen in 1 per cent.

359. FEMALE Sterility, Therapeutics of.—The rational treatment of female sterility is based upon a knowledge of its causation. In anæmia, chlorosis, or scrofulosis reconstructive medication is required. Amenorrhœa, if the generative organs are normal, may yield to local stimulating applications, such as scarification of the cervix, introduction of the sound or of stem-pessaries, vaginal douches, hot foot- or sitz-baths, galvanism or faradic electricity ; aided by aloes, apiol, or permanganate of potassium used internally. In the amenorrhœa of corpulent women, Kisch, Martin, and Röhrig extol the sulphate-of-soda waters, among which those of Marienbad have a high reputation. In this country the waters of Crab Orchard Springs in Kentucky, Bedford Springs in Pennsylvania, or Ballston Spa in New York would probably be equally efficacious.

In endometritis, applications of tincture of iodine or of iodized collodion to the internal surface of the uterus are often effective. When villous endometritis is present, or the uterus still contains remnants of a previous conception, the dull curette is indicated. In peri- or parametric exudations, hot-water vaginal douches and iodo-formized tampons are useful.

Catarrhal diseases of the vagina must be treated with astringents. Kisch relates a case in which there were profuse hyperacid secretions. He directed injections of a fifteen-per-cent. solution of sugar to which one-tenth per cent. of caustic potassa had been added. In this solution the spermatozoa remain active for a long period. The woman became pregnant after using this injection for some time. Charrier found in two similar cases that the daily injection of a solution containing one part of albumen, with fifty-nine of phosphate of soda, in ten thousand of water, removed the acidity of the secretion, and the women conceived in the course of six weeks, although during four years of married life they had been sterile.

Gonorrhœa should be treated with germicide irrigations. The most effective are nitrate of silver (one to three thousand—one to two thousand), salicylate of sodium (one to twenty), corrosive sublimate (one to twenty thousand).

In atrophy of the uterus the galvanic and faradic currents may be used with some hope of benefit.

Vaginismus demands a careful consideration of each case. Recently cocaine in four-per-cent. solution painted on the vulva and vagina has been found effective. If this fail, operative measures (dilatation under anæsthesia and subsequent wearing of a plug) may be resorted to.

In cervical stenosis, dilatation with tents or incision may be employed. The former method is warmly advocated by Schultze. If rigid instruments are used, the solid round dilators of Peaslee or

Hegar should be chosen. The dilating instruments which act by a separation of two or more blades are by Kisch considered inappropriate. In hypertrophy of the cervix, amputation is proper; in laceration, Emmet's operation.

Atresia of the vagina does not demand treatment in the absence or defective development of the other internal generative organs.

Displacements should be appropriately treated by manual reposition and pessaries or tampons.

The accepted opinion among physiologists is that the most favorable time for conception is two or three days before the beginning, or five or eight days after the cessation, of the menstrual flow.

Kisch does not advise attempts at the artificial impregnation of the human female, as practised by Sims and some of his followers. He closes his very interesting monograph with the caution to the physician not to be too ready to give either a favorable or an unfavorable prognosis. In the former case he may be mistaken and disappointment follow; in the latter he may likewise err, and his judgment will then be discredited in other things.—*Ibid.*

Obstetrics.

360. OBSTETRICAL Nomenclature, Uniformity in.—DR. A. R. SIMPSON in the *Ed. Medical Journal*.—At the meeting of the International Medical Congress in London in 1881, I made a suggestion as to the desirability of attempting to obtain some degree of uniformity in the use of various terms in obstetric teaching and literature. The proposal was favorably received, and a committee was nominated, consisting of members of different nationalities, who were to consult with committees of their compatriots, and report to the subsequent Congress.

At Copenhagen, although I was only able to report one meeting of the International Committee without definite result, the subject was still deemed of sufficient importance to be referred back to the committee, in the hope that further interchange of ideas might be made so as to furnish a report which should form a basis for full discussion and final decision in the International Congress to be held in Washington in 1887.

I think it will be well to submit the subject, first of all, to such a Society as this, and the object of this brief communication is, 1, to lay before you some of the points on which it seems to me desirable to seek for uniformity; and, 2, if we find that we can come to a common understanding regarding them, to propose that we should send them in the form of a circular letter to the various teachers and

authors on Midwifery in Great Britain and Ireland, with the hope of ascertaining their views on the subject. It might run somewhat as follows:—

Do you consider it desirable to try to attain uniformity in obstetrical nomenclature?

Do you consider it possible to arrive at uniformity of expression in regard to—

- I. The Pelvic Diameters?
- II. The Diameters of the Fœtal Head?
- III. The Presentations of the Fœtus?
- IV. The Positions of the Fœtus?
- V. The Stages of Labor?
- VI. The Factors of Labor, or any other topics?

Are you prepared to adopt the following definitions and designations? or what modifications of them would you propose?

I. PELVIC BRIM DIAMETERS.

1. Antero-posterior: between the middle of the sacral promontory and the point in the upper border of the symphysis pubis crossed by the *linea terminalis*=*Conjugate Diameter*, C.D.
2. Transverse: between the most distant points in the right and left ilio-pectineal lines=*Transverse Diameter*, T.D.
3. First oblique: between right sacro-iliac synchondrosis and right pectineal eminence=*Right Oblique Diameter*, R.O.D.
4. Second oblique: between left sacro-iliac synchondrosis and right pectineal eminence=*Left Oblique Diameter*, L.O.D.

II. DIAMETERS OF FŒTAL HEAD.

1. From tip of the occipital bone to the centre of the lower margin of the chin=*Occipito-mental*, O.M.
2. From occipital protuberance to glabella=*Occipito-frontal*, O.F.
3. From a point midway between the occipital protuberance and the foramen magnum to the centre of the anterior fontanelle (*bregma*)=*Sub-occipito-bregmatic*, S.O.B.
4. Between the two parietal protuberances=*Bi-parietal*, Bi-P.
5. Between the two lower extremities of the coronal suture=*Bi-temporal*, Bi-T.

DEFINITION OF PRESENTING PART: OF OCCIPUT, SINCIPUT, AND VERTEX.

The *Presenting Part* is the part which is during labor bounded by the girdle of resistance or girdle of contact. The *Occiput* is the portion of the head lying behind the posterior fontanelle; the *Sinciput* is the portion of the head lying in front of the bregma; the *Vertex* is the portion of the head lying between the fontanelles.

III. PRESENTATION OR LIE OF THE FÆTUS.

1. Longitudinal—
 - (1.) Cephalic, including
 - Vertex and its modifications ;
 - Face and its modifications.
 - (2.) Pelvic, including
 - Breech ;
 - Footling ;
 - Knees.
2. Transverse or Trunk, including
 - Shoulder or Arm and other rarer presentations.

IV. POSITION OF THE FÆTUS.

1. Left (L.)	{ Occipito- (O.) Mento- (M.) Sacro- (S.)	{ Anterior (A.) Posterior (P.) Posterior (P.)
2. Right (R.)	{ Acromio- (A.)	{ Anterior (A.)

V. STAGES OF LABOR.

Labor to be divided into three stages.

1. First Stage—from the commencement of effective pains till complete dilatation of os externum = *Stage of Dilatation*.
2. Second Stage—from dilatation of external os till complete extrusion of child = *Stage of Expulsion*.
3. Third Stage—from expulsion of child till the complete extrusion of placenta and membranes = *Stage of the Afterbirth*.

VI. FACTORS OF LABOR.

1. Powers.
2. Passages.
3. Passenger.

361. MODERN Midwifery, is it Based on Erroneous Principles ?
 BY DR. H. C. COE, in the *New York Medical Monthly*.—When a writer of such shrewdness and originality as Dr. Corson—whose paper entitled “The Statistics of Three Thousand and Thirty-six Cases of Labor,” has recently appeared in the *New York Medical Journal*—tries to persuade us as the result of his great experience, that modern midwifery is wrong in theory and absurd in practice, it is time to inquire as to his methods of reasoning. While acknowledging that they can learn much from the hard common sense of the worthy doctor, the present generation of medical men must be somewhat dismayed when they ascertain that the more scientific their training in the obstetric art, the farther they have departed from the simple teachings of nature.

Although Dr. Corson's lengthy polemic is not quite as connected as it might be, he discusses in order some of the mooted points in obstetrics, viz.: Antiseptic injections, the frequent use of the forceps, Credé's method of conducting the third stage of labor, post-partum hæmorrhage, puerperal convulsions and a few other topics of less importance. Making some allowance for the earnestness of his convictions, which sometimes hampers his logic, we venture to examine the writer's arguments (if they *are* arguments) calmly and impartially, since his deductions, if not true, should not be allowed to circulate among the profession without a protest.

With the naïve introduction, "in the practice of this art I have not followed the requirements of times" (the force of which statement becomes quite apparent as we proceed), he plunges *in medias res* with a sweeping denunciation of modern teaching, as exemplified by the "professors." Aside from the manifest injustice of the charge that our medical schools teach their students to "use the forceps and all the other swift-sure means of speedy delivery," while "the suffering and fate of the woman are of secondary importance," the writer entirely overlooks the difference between the class of patients among whom his practice has fallen and delicate, city-bred women. Moreover he shows a complete ignorance of the first principles of gynæcology, especially of the conclusion reached by Dr. Emmet, that "the women who are delivered by means of instruments, after impaction of the head, sustain far less damage to the soft parts than those in whom labor is hastened by ergot, *or terminated by the unaided efforts of nature.*"

The section on "Antiseptics" approaches more nearly to the character of an argument than any in the paper, yet it is one which may be summed up by the dictum "*Fe le veux !*" Selecting the most extreme views of both the advocates and opponents of vaginal injections, Dr. Corson at once jumps at the conclusion that because carbolic acid poisoning has occurred in a few instances, therefore it should never be allowed to approach the uterus or vagina, be the labor normal or abnormal! If the worthy doctor thinks that a solution of one to twenty is the proper one for intra-uterine and vaginal injections we can well believe, as he admits, that he "does not know." It is unprofitable to discuss this question further with him. We refer the friend of nature to a paper by Dohrn, in the *Zeitschrift für Geburtshilfe u. Gynäkologie* giving the statistics of forty-three public lying-in hospitals in Germany, including a period of ten years. Among 104,278 births, the mortality for the entire decade was 1.37%. The mortality in 1874 was 1.63%, in 1883 0.96%, a difference which the writer attributes directly to "the introduction of antiseptics." The doctor does not mention his own mortality in private practice, but the above figures would furnish him with food for reflection, if he understood (as he evidently does *not*) the true character of German obstetrics, of which he writes contemptuously. Before criticising the Germans he would do well to make himself familiar with the facts.

The writer's interpretation of "Credé's method" is so amusing that we should pass it without comment were it not for the possible harm which might result among readers who accept Dr. Corson's description as a correct one. We only refer those who are not familiar with German to an article by Dr. S. Baruch (*Am. Journal of Obstetrics*), entitled "The Management of the third stage of Labor," in which the prevailing misconceptions with regard to Credé's teachings are clearly proved. It is needless to attempt to convince the writer, who wraps himself up in a comfortable (though somewhat mediæval) spirit of self-complacency, saying: "That this abuse by Professor Credé of the gentle means used by all obstetricians for seventy or eighty years (!) is not necessary, my three thousand cases in which they were not once used, and yet all the patients did well, satisfy me."

Passing over the portion of the paper devoted to a discussion of the matter of tying the cord and applying the binder after delivery, since the doctor's teaching on these points has been carried out for years in Vienna, we dwell for a moment upon the section headed "Flooding after Delivery." In the avoidance of this alarming complication, also, Dr. Corson appears to have been exceptionally fortunate, far more so in fact than his less experienced *confrères*. It falls to the lot of many city practitioners (even the "young and inexperienced") to encounter cases in which neither the power of the imagination, nor the use of ergot, is sufficient to arrest post-partum hæmorrhage. It is highly unscientific for a man in Dr. Corson's position to assert that "nothing is so potent to prevent flooding as a confident, assuring manner in the physician." We have no patience with one who acknowledges that he has never had an alarming case of flooding in his own practice, and yet presumes to tell us that "a confident assuring manner" is sufficient in the face of a complication which calls for all the resources of scientific midwifery.

Our writer's comments on the uræmic theory of puerperal convulsions are bold but somewhat vague. He cuts the Gordian knot with this original idea: "Suppose it to be true that a certain amount of urea in the blood is poisonous, and has produced convulsions, venesection would then be my remedy. . . . I should remove *with the blood* so much of the urea that the remainder could not exercise a toxic effect sufficient to produce convulsions." We heartily agree with the writer as to the advisability of blood-letting in some of the cases, however we may question his ingenious theories on pathology; but we fear that "those who shall hereafter read what he has written" may infer that the doctor's universal resort to the lancet savors not a little of pre-scientific times. His success in the treatment of puerperal eclampsia has likewise been phenomenal.

The concluding paragraph on "Puerperal Fever"—a subject which many eminent authors have thought sufficiently important to deserve the most careful study—comprises seven lines (!) "Of this I can only say," remarks the writer, "that if it is a disease different from

peritonitis I know nothing of it." Comments are needless: We can only congratulate the worthy doctor that he has never had an opportunity to study it in his own practice.

Here ends this remarkable paper; remarkable because it apparently expresses the candid opinions of a man who has lived for many years in the medical world, yet has clearly not been of it; who has had a wide personal experience in obstetrics, and yet has deduced from a large number of collected facts theories which are about twenty years behind the times. This stricture may appear severe, and, as coming from a younger member of the profession, positively disrespectful; but the gage was boldly, in fact, defiantly, thrown down, and it should not be allowed to lie.

It seems to us that when such a paper as the one which we have been discussing is accepted by a prominent obstetrical society without a murmur, and goes abroad as an expression of American conservative (?) midwifery, it is calculated not only to do harm among the younger medical men, but to place in a very unenviable light those of us who do believe in obstetrics as a science. We are happy to say that, so far as our inquiries have extended, Dr. Corson's opinions are *not* those of the men who endeavor to keep abreast of modern thought. Unfortunately, foreign readers may not understand this, and thus the profession as a whole will be charged with holding views which do small credit to our present enlightenment.

362. MIDWIFERY, A New Era in.—ED. in *North-western Lancet*.—Fashions in dress are not more certain to move in circles than fashions in medicine, and there is no branch of the science of medicine where theory and practice has swung in a smaller circle than in the art of midwifery.

During the first half of the present century the pendulum of opinion swung to the extreme limit of non-interference. Then the worst reproach that could be urged against an obstetric measure was that it was "meddlesome midwifery." How far this policy of non-interference could be carried was shown by the sad case of the Princess Charlotte, who lingered through a labor of more than two days and finally died of exhaustion, while the leading obstetricians of Great Britain stood around her bed, refusing to interfere with the processes of nature.

Great as were the lengths to which this policy of inaction was carried, they were over-matched by the variety and extremity of the measures of interference which have been recommended and followed in the reaction which has taken place. From leaving everything to nature we have come to leaving almost nothing to nature. If the pains of labor have been severe we have stopped them with chloroform; if they have not been severe enough we have goaded them on with ergot or sup-planted them with the forceps. Even after the womb was empty we have not let it alone, but have fired random shots at invisible foes with our antiseptic injections into uterus and vagina, or have barricaded the entrance to the parturient canal with antiseptic pads.

At last, however, there are indications that we have gone too far in the direction of interference and have already turned back. How far we shall go in the other direction remains to be seen, but it is reasonable to hope that we shall not be led into the extreme errors of the generations which have preceded us. What backward steps we have taken so far have certainly carried us in the right direction. The use of ergot before the womb is empty is discouraged by the best teachers. The routine administration of antiseptic vaginal douches after labor has been abandoned generally, and the douche reserved for cases where poisoning is particularly threatened, while it is used with great circumspection even in cases of established septicæmia. The forceps, however, are still used as freely as ever, and their use is in so many cases entirely uncalled for and unwarranted, that a reaction in this direction is sure to follow.

But the most remarkable revolution in midwifery which may possibly follow is the abandonment of all vaginal examinations and the substitution of external palpation as a means of diagnosing the position of the child. For some time the teachers in German medical schools have paid more and more attention to instructing the students in external palpation, and the art has become so far advanced that diagnosis by this method is sufficiently certain in most cases. Credé of Leipsic is the great advocate of this measure, and he has tried it practically for some time. His idea is that labor is much safer when the finger is not introduced into the vagina, and in his hospital weeks often pass without a digital examination in the lying-in wards. So rarely has he found vaginal examination necessary that, during the whole year past, out of some six hundred labors, he has been obliged to resort to such examinations only seven times.

If it be found possible to insure the universal substitution of external for internal examinations, non-interference in midwifery will have a new meaning, and will be carried to a length of which the obstetricians of preceding generations never dreamed. The advantages of doing away with vaginal examinations are obvious, but there are many obstacles to the introduction of the new method of diagnosis, not the least of which is the difficulty of learning it, and the difficulty of teaching it in the country, where the necessary material for instruction can so seldom be obtained. Much good, however, will still have been accomplished, if the agitation of the subject leads to a more general recognition of the value of external palpation in midwifery.

363. BREECH Labor in Certain Points in the Conduct of The Second Stage.—DR. J. C. SANDERS in *the Med. Era*. The mortality in breech labor rests almost exclusively in the child, and this fatality depends on conditions—all other things equal—that conspire in the progressions of the second stage. They may be summarized as follows :

First :—As soon as the hips become fairly engaged within the circle of the os uteri, involving as this does the close approximation of

the thighs of the foetus to its body, the umbilical cord becomes subject to pressure, by being caught between the child's thighs and body. This condition of peril continues on and attends the delivery of the breech through the brim, excavation, outlet, and even the grasp of the vulvar orifice. *Second* :—As soon as the shoulders engage the circle of the os, the cord is submitted to pressure between their circumference and the inner margin of the os, and the presence of the arms flexed upon the chest might intensify as their extension upwards upon the sides of the head might relieve this pressure, by the extended arms making a kind of a bridge over the cord. *Third* :—When the shoulders are delivered from the grasp of the os, the cord becomes imprisoned between the circumference of the head and the inner margin of the os not yet dilated sufficiently for its prompt exit, because the smaller end of the ovoid has been delivered first. The compression exerted at this juncture would be considerable only during pain. *Fourth* :—The compression of the cord becomes greatly aggravated, indeed reaches its greatest possibility, when the head either still in utero, or ex-utero, is wedging the cord between the head's circumference and the inner face of the brim, or between it and the quadrangle planes of the excavation, or between it and the inner margin of the outlet, or between it and the marginal grasp of a firm or rigid vulva. *Fifth* :—When the head is detained in utero from lack of sufficient dilatation on the part of the os margin, the placenta itself becomes speedily subject to compression, at every pain, between the uterine walls and the dome of the head, a compression sufficient to compromise the safety of the child. *Sixth* : The last pain that expelled the head from the uterus, or the next that follows, and before the head is delivered from the pelvis or vulva, may detach the placenta and thus cut off the maternal current of life before birth has become completed or after completion. Before respiration has become established the child is very prone to perish.

The great sources of peril to the child may be resolved into three :

First :—Compression of the cord. *Second* :—Compression of the placenta. *Third* :—Detachment of the placenta, prior to completed birth. In the face of these specific dangers, the great indication of successful management consists in securing to the child the greatest possible immunity, by reducing to the least possible minimum these dangers, so far as they are unavoidable, and conversely, so far as they are avoidable, to avoid them. In fulfilment of this general indication there are cardinal points of conduct, often unappreciated, or unheeded, or disrespected, that are essential to the safety of the child. They may be summarized as follows : *First* :—The diagnosis having determined a breech labor, the forceps should be sent for, if not already at hand, and made ready for instant use as the labor approaches its close. Neglect or disregard of this rule sacrifices the life of the child. *Second* :—The position in which the breech is presenting should be promptly ascertained, since this must control the decubitus of the mother, at the close of this stage. If the breech presents, however,

in either first or second position, that is, in either of the sacro-anterior positions, the mother's decubitus is not so important; she may be on her back or side, at the discretion of the obstetrician, or as may be most agreeable to her. But if the breech presents in either of the sacro-posterior positions, that is, in the third or fourth positions uncorrected, her decubitus from the time that the perinæum comes to be appreciably pushed against, invariably must be on her side, left or right. The safety of the child depends on a rigid regard of this rule. The child would probably be lost by any attempt at delivery in either of these sacro-posterior positions, were the mother permitted to remain on her back. *Third*.—In the course of the second stage as opportunity shall best offer, the attention of the mother should be drawn to the fact that there will come a time when, whatever her inclination may be to the contrary, she shall obey the command of the obstetrician, as he shall challenge her to bear down with all her might. Her pledge to this should be secured, as this voluntary force may be most needed when she is the least inclined to exercise it, and just this supplemental force may be essential to the safety of the child. *Fourth*.—The delivery of the breech should not be aided or hastened by art, except, always of course, when art is demanded for the safety of the mother, or when art is demanded to overcome some obstructive condition, as in case of failure to engage the brim by reason of extraordinary bulk of breech, or unusual narrowness of the inlet, or failure to make the necessary rotations after engagement. With these exceptions the rule should be inviolate, whatever the tediousness or delay; whatever the importunity of the patient, or the clamor of the helpers or sympathizers, or whatever the pressure of business engagements on the hands of the obstetrician. This is one of the keys to the problem of safety. This rule unviolated, secures to the soft parts the greatest possible dilatation, and furnishes thereby the best possible preparation for the speediest delivery of the head, after the body and shoulders of the child have escaped. *Fifth*.—In case the presentation is in either one of the sacro-posterior positions, that is, the third or fourth, as soon as the hips have escaped from the verge of the vulva, the breech should instantly be seized by the hand, and in the interval that now generally ensues, be pushed upwards and backwards and rotary motion imparted to the hips, so as to secure the necessary rotation of the shoulders and head, but in case no interval ensues, all further descent of the breech should be firmly resisted, and the voluntary forces checked, until the pain passes off, and an interval is thus made to succeed, when the rotary manipulation instantly should be instituted. This consists, in case it is the third position, in carrying the hips from their antero-posterior position into a sharp left obliquity that will oblige the shoulders to rotate from their now right obliquity into left obliquity and the vertex pole of the occipito-frontal diameter, into right obliquity, and thereby engage the brim corresponding to the right acetabulum, thus converting the third into the second position, so that the delivery of the head shall be effected as if the breech

had presented in the second position. In case of the fourth position, the hips are to be carried into sharp right obliquity, obliging the shoulders to engage the brim in right obliquity, and the vertex pole of the occipito-frontal diameter to revolve from the left sacro-iliac juncture forward, so as to engage with the vertex at the left acetabulum, converting the fourth position, so far as the delivery of the shoulders and head is concerned, into the same as if the breech primarily had presented in the first position.

The successful accomplishment of the conversion of these sacro-posterior positions immensely conserves the safety of the child. Failure in these conversions involves great disadvantages, which may be stated thus: (*a*)—Loss of space dependent on the ill adaptation of the face and forehead as compared with the center curve of the vertex, to the concavity of the symphysis and pubic arch. (*b*)—The co-adaptation of the face of the child against the immovable inner surface of the symphysis, occluding thereby to a greater or less extent, and often completely, access of air to the mouth and nostrils of the child. (*c*)—The sharp spasmodic retraction of the perinæum over and upon the back of the neck of the child, sometimes and often making difficult the displacement of the vertex backward sufficiently to permit the face to be brought down promptly enough to save the child. These disadvantages may make all the difference between loss and rescue; whereas with the face to the hollow of the sacrum, as in the first and second, or the converted third and fourth positions, the perineal floor may be pushed back so as to give access of air to the mouth and nostrils, and thus make respiration possible before the head is delivered from the grasp of the vulva or even from the outlet. *Sixth*.—As soon as the hips are delivered and their rotation when necessary, with reference to conversion of position is effected, the limbs of the child quickly and carefully should be brought down, the cord be cared for, by bringing it down a few inches, so as to take off all tension on the umbilicus and giving it a position so as to be relieved to the greatest extent possible from pressure by the descending body and rotating shoulders, and the breech of the child to be supported in the direction of Carus' curve extended, which in the first or second position, or the converted third or fourth, will carry the body of the child, as the shoulders become delivered, up over the symphysis, toward and upon the abdomen of the mother. But having failed in the conversion, or having been called too late to effect it, in case the breech is presented in the third or fourth position, the movement of the breech and body of the child must be the reverse of this: they must be carried backward over the perinæum and towards and upon the back of the mother, in order that, as the shoulders become delivered, the mental pole, which leads, may be born first, and the face of the child displaced backwards from the inner surface and arch of the symphysis, so as to give access of air to the mouth and nostrils, and make respiration possible anterior to completed delivery. *Seventh*.—The necessary rotation of the shoulders at the outlet, and of the head at the

inlet, and the bringing down of the arms, should next demand prompt attention. The bringing down of the arms is a nice little art and should always be conducted with a movement from the vertex towards the chest of the child, that neither arm may become locked over the back of the neck and thus embarrass the rotation and descent of the head. *Eighth*:—With the arms brought down, and the shoulders delivered, the head of the child is in the excavation, presumably escaped from the uterus, but not necessarily so, since there may not have been attained a sufficient dilatibility of the os margin, to permit the head yet to escape, or there may not be a sufficient *vis a tergo* to compel its expulsion from the uterus. The head doubtless may be retained in utero, though down in the excavation and be prevented from further descent by either the grasp of the os margin, or by a deficiency of the *vis a tergo*. If escaped from the uterus the uterine forces have no more power over it to effect the completion of delivery, and even if not escaped the uterine forces are so inconsiderable as not in any degree to be trusted or relied on, as at all helpful to completion of birth. *Ninth*:—The completion of birth after the head has become engaged within the excavation, depends almost exclusively on the voluntary forces and the interposition of obstetric art.

These special duties are here immediate and imperative: *First*:—To challenge the voluntary powers, the mother's bearing down with all her might, agreeably with her pledge. *Second*:—To adjust the cord when it will be least pressed upon. *Third*:—To make traction through and upon the neck of the child so as to keep the centre of the head to the line of Carus' curve and forthwith complete the delivery. But whatever the dispatch, obstetric art inviolably must obey three cardinal rules: *First*:—The chin must be kept to the chest, for it leads and must be born first. *Second*:—The necessary rotations of the head must be secured. *Third*:—The integrity of the soft parts must be respected. Any haste that would drag the chin from its flexion on the neck and chest would incur the liability of locking it upon one or another of the salient points of the outlet or on the perinæum; or that would disrespect the rotations the head must make, would entail a fatal delay; or that would disregard the integrity of the soft parts would add greatly to blunder. The chin may be kept from departing from its flexion on neck and chest by the application of the first and second fingers of the free hand upon the chin, one on either side, or passing by their hand a little higher by their application on the superior maxillary, one finger on either side of the nostrils, or even by one finger, continuously inserted inside of the mouth; never here however for traction; never, for traction is to be exclusively exerted upon and through the neck, but used only to keep the chin down on the neck. No defacement of the child or harm to the symphysis of the lower maxillary can result from this manipulation thus limited. The necessary rotations of the head may be secured, if not spontaneous, by manipulations with the body, acting on and through its neck, supplemented,

if necessary, by pressure exerted by the fingers of the free hand on one side or another of the chin or face. The integrity of the soft parts are to be conserved by protecting them from incurring any mechanical disadvantages in the despatch that may be deemed necessary to the safety of the child. The amount of tractile force justifiable on and through the neck of the child, with the chin kept down and the head's rotations secured, is far beyond the average estimate. Experience in forceps delivery, with the head leading, wherein the traction is often chiefly spent on the child's neck, and is sometimes carried to the limit of the strength of the obstetrician's arm or hand, and this too, with perfect safety to the child, furnishes abundant assurance of the truth of this proposition. I have no doubt that many a child has been sacrificed by the timidity of the obstetric art, at this precise juncture in the conduct of breech labor. Indeed it would be difficult if not impossible, to exert a force endangering to the child, simply by the one hand and arm that engrasps and engages its body, chest and shoulders, for the other hand has largely to be engrossed in keeping the chin down, properly placing the cord where it will be least subjected to pressure, securing the necessary rotations of the head and keeping back the perineal floor from the face of the child, if in the first or second position, or in keeping the face from the inner surface of the symphysis, if in the unconverted third or fourth position.

A force then, within the limit of one hand and arm to exert, may be considered safe and justifiable, so far as tension on the neck of the child is concerned, and such a force of traction may be counted on as sufficient for the completion of delivery in every case, except in preternatural narrowness of the pelvis, and except in certain cases where there is an extraordinary firmness or rigidity of the vulvar and perineal structures as to prove too resistful to the escape of the head. In such cases the forceps become necessary to supplement what tractile force within this limit fails to accomplish, or when a force beyond this limit is demanded. When required they are as imperatively required as the life of the child is sacred. If the child be dead, as evidenced by the cord having long ceased to beat, the forceps may be dispensed with, for an intermitting traction with intervals of a few minutes, in imitation of nature's process of gradual dilatation, will ordinarily soon accomplish the delivery; but if alive, as evidenced by the cord still beating, however feebly, our only hope will depend on an immediate forceps delivery. If there is a doubt as to its life, our duty is to give the child the benefit of the doubt and immediately deliver. Not to have the forceps ready and at command in face of such a peril to the child is nothing less than an inexcusable and criminal neglect.

The propositions that underlie these last mentioned rules of duty merit the emphasis of repetition: *First*:—From the time the head of the child enters the excavation the completion of its birth is exclusively dependent on the voluntary forces of obstetric art. *Second*:—The voluntary forces are, however, only a moiety of what is necessary to prompt delivery. *Third*:—The completion of birth is chiefly de-

pendent on obstetric art. *Fourth* :—Obstetric art in order to be conservative to the life of the child must be intelligent, energetic and prompt. To rely on the uterine forces to complete the birth, after the head has escaped from the uterus, as it generally has, by the time the head comes down into the excavation ; or to rely on these, even in case the head has not fully escaped, but is so far escaped that only its dome is still retained, and this only by the engrasping of the circle of the os around and just below the parietal eminences, is a deceiving expectation and only a waste of golden time ; or to trust the voluntary powers for the accomplishment of completed delivery, when at best these aggregate only about 1-6 of the labor forces necessary to carry the head through the outlet and over the perinæum to a successful issue, is alike illusory and involves an imperiling delay ; or to wait on the slow processes of gradual dilatation in the transit of the head is a no less dangerous procrastination.

364. TURNING the Fœtus in Utero. External Manipulation as a Means of.—DR. J. E. QUIMBY, in the *Mass. Med. Journal*.—Hippocrates recognized the oval position of the child in the womb, and graphically illustrated the impossibility of delivery in cross births by the simile of an olive in the neck of an oil jar, but oddly enough it does not seem to have occurred to him that as every oval has two ends, the foetal oval may pass with either of these in advance, just as the olive may be extracted from the jar. Physicians are now, however, fully alive to the great advantages of version, which consists in bringing down the feet when another part presents, this being a proper procedure whenever speedy delivery is necessary, while in transverse or shoulder presentation, it is the only course open.

That the ordinary method of turning is often attended with extreme difficulty, and is accompanied with no slight danger, is well understood by all those who have practiced it. Early in the present century Wigand proposed a method whereby the presentation of the child could be rectified without the slightest risk to the mother, by external manipulation alone. The successful employment of this method in a recent case induces me to call renewed attention to it. I was called a few weeks since to a patient in labor attended by a midwife. I found the arm protruding to the shoulder joint, the mother very much exhausted, and the external parts excessively sensitive. Labor had been in progress twelve hours. The midwife in her delirium of anxiety had placed her feet against the nates of the mother and exerted all her strength by pulling on the arm, to deliver the patient.

The thumb of the fœtus was towards the pubis, and the palm to the left side of the mother, showing it to be the right hand, therefore the head was in the right, and the ribs and hip in the left iliac fossa.

In the absence of p in I gently raised the head with the *whole palm* of my left while I depressed the breech in like manner with my right hand, which caused the arm to recede. During the ensuing pain I pressed firmly with my right hand against the breech, depressing it

into the cavity of the pelvis, while holding the head in the elevation I had gained. This instead of increasing the suffering of the patient, by obtaining a new position and bearing of the foetus from that in which it had for hours rested, diminished it. In the next intermission of pain, I repeated the manipulation of elevating the head and depressing the breech, and again held it during the pain, the arm almost disappearing, and on the coming on of the fourth pain, I was rejoiced to see the feet slip through the labia. The patient was speedily delivered of a dead child.

As I before said I have a number of times before done this operation, generally producing breech presentation; occasionally the feet slip down. It is practicable, and is attended with less difficulty to the practitioner, and far less pain and danger to the patient than introducing the hand into the uterus, and bringing down the feet, as recommended by our text books.

There is a predisposition in arm or shoulder presentation to spontaneous evolution, which is often accomplished by unaided action of the uterus. This predisposition will prove to the operator a willing auxiliary.

365. OBSTRUCTION at the Pelvic Brim. Treatment of Labor Delayed.—DR. SAMUEL SLOAN, in the *Edin. Med Jour.*—I confine myself to cases where the obstruction is in the conjugate diameter. In pelves with this deformity we may have the transverse diameter *proportionally* diminished, thus giving what is called a *generally contracted pelvis*. We may also have what is called the *flat pelvis*, this being either a normal pelvis flattened, or a generally contracted pelvis flattened. Arranging these, say, in the order of their interest, we have—first, the *simple flat pelvis*; secondly, the *generally contracted pelvis*; and third, the *generally contracted flat pelvis*. Clinically, these agree in the fact that the sacrum, projecting forwards at the brim, is generally more or less within the reach of the examining finger; whereas in the normal pelvis the finger cannot possibly reach this projection. The consequent diminution of the conjugate diameter varies from a slight and clinically unimportant decrease to a contraction which may be called absolute. In the very slight degrees of contraction there will be no delay which cannot be overcome by the ordinary powers; whereas in the absolute contraction there will be such an obstruction as to prevent absolutely, under any circumstances, the passage *per vias naturales* of a viable child. Having thus narrowed our discussion to these limits, we necessarily eliminate on the one side, “patience,” and on the other, Cæsarean section and allied operations, from the present inquiry.

I have just stated that this kind of contraction can be diagnosed by finding that the promontory of the sacrum is within reach of the examining finger, where the deformity is so decided as to come within the above limits. But how are we to ascertain to which of the three kinds of contraction a given case belongs? This is easily done

though not with the most desirable accuracy, by taking certain external measurements of the false pelvis, the only instrument required being an ordinary pair of callipers. We find that, in the normal pelvis, the distance between the anterior superior spines of the ilia is 10 inches; that between the crests at their broadest part being 11 inches. In a generally contracted pelvis these figures will be both diminished, and nearly equally so, giving us, say, 9 and 10 inches respectively. When, however, a pelvis becomes flattened from before backwards, narrowing the conjugate diameter only, as in the rickety pelvis, the *relative* distances of these points become altered, the crests being approximated whilst the distance between the spines is increased. This will obviously hold in flattening of both the normal and the generally contracted pelvis. I find that in the living subject these measurements generally appear under rather than over the true ones. A correct estimate of the internal conjugate is more desirable than attainable, for internal pelvimeters are not of much service. But a fairly accurate estimate of this character may be formed by measuring with the index finger of either hand the distance between the sacral promontory and the lower end of the symphysis pubis, and deducting from this *lower*, or *diagonal* conjugate, as it is called, about $\frac{3}{4}$ of an inch. The exact nature of pelvis we are dealing with is important when we consider the mechanism of labor in such cases; for the head disposes itself, as a rule, differently at the brim in the flat from what it does in the generally contracted pelvis. We know that in normal labors the head at the brim is found, as soon as labor pains have begun to tell on it, more or less flexed, the sagittal suture being in one of the oblique diameters and in the axis of the brim. This may still obtain in the generally contracted pelvis. In the flat pelvis, however, the head lies in an extended position; and, if we reflect that, when in the transverse diameter, before flexion can take place, the parietal protuberances must have cleared the brim, we shall see that no other position is possible. But besides this, you will find on placing a foetal head over the brim of such a pelvis that the broadest part of the head (the biparietal diameter) is placed to one side of the promontory—where alone, in fact, it can find room which seems almost made for it. In moderate degrees of this deformity, again, the vertex of the head will be considerably below the plane of the brim; but in very severe contraction the vertex will be more nearly in the plane of the brim. The head in the flat pelvis, again, whilst having its antero-posterior diameter in the transverse diameter of the pelvis, will have its sagittal suture lying nearer to the sacrum, however, than to the pubes.

A few words here as to certain diameters of the head: We have two transverse diameters of the head quite distinct from each other. One, the coronal—the greatest distance between the two sides of the coronal suture. The other, the biparietal—the distance between the two parietal protuberances. Now these diameters indicate the greatest breadths of the cranium at different portions, and they are about $1\frac{1}{2}$ in. apart. The measurements of these diameters *at the base*, viz., the

bizygomatic and the bimastoid, are less than the corresponding diameters in the cranial vault; and the anterior pair of diameters are individually less than the corresponding diameters posteriorly. The measurements will be found to be as follows: Bizygomatic, $2\frac{5}{8}$; Coronal, $2\frac{7}{8}$; increase, $\frac{3}{8}$. Bimastoid, $2\frac{5}{8}$; Biparietal, $3\frac{3}{8}$; increase, $\frac{1}{8}$. Only one other diameter—but this time a pelvic one—must be borne in mind. As this diameter has not been recognized as such, so far as I know, though its posterior pole has often been referred to, it may simplify matters if I give it the name of *lateral conjugate* diameter of the brim. It is an antero-posterior diameter, but lies, as its name implies, to either side of the true conjugate, and not always strictly parallel to it. I find that in contracted pelves this diameter measures *from a $\frac{1}{4}$ to $\frac{1}{2}$ an inch* more than the true conjugate. Each lateral conjugate will obviously be of the same length, unless the brim is irregularly contracted. The posterior pole of this diameter will be at the inner portion of the ala of the sacrum, and the anterior pole will be at some part of the pubic bone immediately behind its crest.

Viewing the head now in its relation to the brim of a flat pelvis, on which the vertex is resting, we are able to put the matter briefly thus: the head is extended with its long diameter in transverse of the pelvis, its coronal diameter in the true conjugate of the pelvis, and its biparietal in the lateral conjugate of the pelvic brim. When the *base* of the cranium rests above the brim, the head is still extended, and has still its long diameter in the transverse of the pelvis; but now its bizygomatic diameter is in the true conjugate, and its bimastoid in the lateral conjugate. In the generally contracted pelvis, when the disproportion is decided, the head will have, whether vertex first or base first, substantially the same position as the above, but it will occupy equally the two sides of the pelvis. It will also have the Naegele, but not necessarily the Michaelis obliquity. If, however, the disproportion be not great, the head can then assume a flexed position, and lie in an oblique diameter of the pelvis. I feel satisfied I am right as to these two different positions of the head *in the generally contracted pelvis*, though I am unable to name any authority in support of these views.

I know from having placed the head of a still-born child at the brim of a generally contracted pelvis, which it filled *completely*, that the head naturally took up its position and passed the brim, as in the flat pelvis, that is, extended, and in the transverse of the pelvis, whether drawn through vertex first or base first, instead of lying in the oblique diameter of the pelvis. If a foetal skull be placed at the brim of the generally contracted pelvis, which it does *not* occupy to the full extent, it will, I find, occupy an oblique diameter. Generally contracted pelves are not, however, *all necessarily strictly* "æquabiles," but incline either to the flat or malacosteon type. And according as such pelves incline to the flat will the head lie in transverse and extended; whilst if they incline to the malacosteon type, it will lie more naturally in the oblique and flexed.

This subject has been largely engaging the attention of obstetricians,

but the writer who has done most towards attempting its practical solution is the late Sir James Y. Simpson. His papers on "Turning as an Alternative for Craniotomy and the Long Forceps in Deformity of the Brim of the Pelvis" impress me as a wonderful illustration of most elaborate and skilful pleading. Simpson's arguments powerfully influenced subsequent writers; but, notwithstanding this, their practice has, to my mind, led at least some of them to speak as if they had been "convinced against their will." The question still resolves itself into the adoption of one of these three plans,—Turning, Forceps, and Craniotomy.

I now come to the principal arguments used by Simpson, and will endeavor after each to give my estimate of its value as a means of ascertaining the true position of version as compared with forceps and craniotomy in contracted pelves.

First, "The foetal cranium is of a conical form, enlarging from below upwards, and the child passes as a footling presentation. the lower and narrower part of the cone-shaped head is generally quite small enough to enter and engage in the contracted pelvic brim." This to my mind is the great argument in favor of Simpson's position, but it may be pointed out that the vertex is not, strictly speaking, "the basis of the cone of the head," but the apex of another cone, having its base the same as the lower cone, viz., the level of the parietal protuberances,—the head being thus divisible into two cones lying base to base. And, unless in exceptional cases, we find that the head, when presenting, has a not inconsiderable portion of its vertex below the level of the brim, thus giving full effect to its wedge-like form there.

"On the Form of the Human Skull at Different Ages," will show that if we wish to have a child whose head will be an inverted truncated cone, as described by Simpson, at its birth, we must keep that child in utero until the age of 12 years.

The exceptional cases, in which the head seems to rest on the pubis rather than in the brim, and thus deprive the vertex of any benefit it might have from its wedge-like nature, are explained by Dr. James Wilson to arise, not from the conjugate being so small as to prevent entirely the descent of the apex of the upper wedge of the head, but from an abnormally great inclination of the pelvic brim, in which the sacral promontory lies nearly *over* the pubis. As I do not think that this species of pelvic brim has been recognized by obstetric operators as bearing on the question of treatment, I give Dr. Wilson's quotation from Bland:

"Although the sacrum may project so much or advance into the pelvis so far as to reach within two or three inches of the pubis, consequently the entrance into the cavity would be only of that diameter if the bones were directly opposite to each other, yet the pubis being placed something lower than the greatest projection of the sacrum, and opposite to a part of that bone that diverges backward, the real distance between them may be much more considerable than to the

touch it may seem to be ; whence it happens that in cases where the projection of the sacrum has occasioned exceeding great difficulty in the beginning of the labor, opposing an almost insuperable bar to the entrance of the head of the child into the pelvis, by directing it too far over the pubis, yet when that direction has been altered by the crotchet, or by any other means, and by the head brought into the line of the centre of the pelvis, the conclusion of the labor has been frequently effected with very little exertion or force." * * "In all of these deviations the labor must be affected less or more, unless the belly of the woman is pendulous, carrying the uterus so far forward as to make its axis correspond to the altered axis of the pelvic brim. In the higher degrees of obliquity, as in those cases referred to above, when the obliquity appeared to be not less than 80 degrees, I am fully convinced that nothing except turning can possibly save the child from its destruction by the crotchet." Besides the influence this kind of brim will have in preventing the head from entering it, it seems to me that it will be in such cases and from such a cause that the posterior parietal bone is the presenting one.

Second, "The hold which we have of the protruded body of the child, after its extremities and trunk are born, gives us the power of employing so much extractive force and traction at the engaged foetal head, as to make the elastic sides of the upper and broader portion of the cone (namely, the biparietal diameter of cranium) become depressed, and, if necessary, indented, between the opposite parts of the contracted pelvic brim, to such a degree as to allow the transit of the entire volume of the head."

I have no objection to this proposition, with the exception of the statement that the *biparietal* diameter of the cranium becomes compressed, the fact being that the biparietal diameter is never the diameter which is compressed by the conjugate in flat pelvis. I would also add that if it is inferred that the hold in head last cases is better, and the extractive force greater than with the forceps, this can only be true if the forceps are wanting in proper length and strength. I cannot admit either that, though the hold is good, the safety of the child's neck is not, to some extent, endangered by the traction. Dr. Goodell's plan, however, of applying a *vis a tergo* to the head diminishes this danger very materially.

Third, "The lateral and very temporary compression of the foetal head by the contracted sides of the pelvis, such as we can produce and effect on artificial turning and extraction, is less dangerous to the life of the child than its oblique or longitudinal compression with the long forceps."

To this I would say that we should have some evidence as to danger from *antero-posterior* compression of the head. Is the usual compression in an ordinary case of protracted labor not largely in the *antero-posterior* diameter? Is the "sugar-loaf head" not an illustration of the antero-posterior or sub-occipito-frontal compression and consequent occipito mental elongation?

Fourth.—"In the mechanism of head cases the neck, as is well known, becomes early flexed in the labor, so that the chin is brought towards the top of the sternum, and the vertex or upper and back portion of the head first becomes pushed downwards into the pelvic aperture, and thus constitutes the presenting part—in other words, the broadest part of the cone of the whole child because the broadest part of the head or its biparietal diameter is thus naturally first driven downwards into the pelvic cavity, and is first directed against the contracted brim."

Now, the head has only to be placed at the brim of a *sufficiently contracted* pelvis to see that, *whether as vertex first or base first* the head *must* lie with its coronal or neighboring diameter in the conjugate diameter of the pelvis, and in an *extended condition*, the parietal protuberance being to one side of the promontory. This will be found to be the case in the flat pelvis, and where the disproportion is sufficient in the generally contracted pelvis also, as has been previously pointed out. But let the head be flexed, as it sometimes is, in the generally contracted pelvis, and it will be found that the more this is done the more is the biparietal diameter brought into the line of the conjugate of the brim, although even with the greatest amount of flexion this broadest diameter in the moderate degrees of the generally contracted pelvis, as in the normal, *is never absolutely in the true pelvic conjugate, on account of the long diameter of the head lying in the oblique diameter of the pelvis, thus throwing the posterior parietal protuberance to one side of the promontory of the sacrum.* In the flat pelvis, however, and in the greater degrees of generally contracted pelves since the head lies in the *transverse* diameter of the pelvis, flexion would necessitate the biparietal diameter being thrown *completely* into the line of the true conjugate of the pelvis.

Dr. A. R. Simpson acknowledges that in the flat pelvis, with the vertex first, flexion really does not take place, but rather increased extension by descent of the forehead. But he evidently still looks on the biparietal diameter as requiring in some parts of its course to pass the narrow conjugate, remarking, "The left parietal bone then rounds the promontory, with its protuberance to the left of the *most projecting part of the promontory*, and as it is squeezed past this point, it may receive an indentation towards its anterior extremity."

Sir James Simpson's argument, therefore, amounts to this, that if the forceps are applied so as to bring the vertex first through the brim, of the contracted pelvis, flexion will necessarily take place, and the biparietal and not the bitemporal (coronal) diameter will have to be squeezed through the narrow conjugate. We have just seen that if the head is in the oblique diameter of the pelvis, this is a *physical impossibility*. That theoretically it may happen when the head is in the transverse cannot be denied. If it did ever happen, I should say that Nature had taken the most awkward way to get out of her difficulty. That it *actually does not* happen the following cases will at least help to prove.

Case 1. Mrs. M'L. *First* child, breech, still-born. *Second*, for-

ceps, still-born. *Third*, forceps, child alive. *Fourth*, forceps, child alive. *Fifth*, forceps, child alive; head indented, left frontal bone; generally contracted pelvis. I have this day seen these two children. They are a strikingly healthy and bright looking pair. I found the mark on the girl's head quite distinct to the touch, as a spoon-shaped depression about $1\frac{1}{2}$ inch broad; but on account of a good crop of hair, the mark could not be seen. See also Cases 5 and 10.

Case 2.—Mrs. S. *First*, premature, child alive. *Second*, miscarriage. *Third*, forceps, still-born, deep indentation over junction of frontal and parietal bones of one side. *Fourth*, forceps, child alive, deep indentation at junction of left frontal and parietal bones. *Fifth*, forceps, child alive, head indented on left frontal bone. *Sixth*, child dead, head marked as in others. Now, if we note what part of the head in these cases of delivery *with the forceps* is indented by the sacral promontory, we will find it to be the bitemporal always; and this region is at least $1\frac{1}{4}$ -inch anterior to the parietal protuberances. We thus see further that this argument is fallacious.

Fifth.—"That the *duration* of the efforts and sufferings of the mother is greatly abridged by turning, when used as an alternative for craniotomy and the long forceps, and that thereby her chances of recovery and safety are increased, whilst the infantile mortality is decreased, because this operation can be performed earlier in labor, and more speedily than the application of the long forceps or craniotomy.

This is obviously an argument not against the forceps, but against *delay* in the use of the forceps, for this operation can be performed, if necessary, quite as early in labor as turning can. If a little more dilatation of the os is required for the introduction of the forceps, a very few minutes, with one of Barnes's bags, would suffice to accomplish this. The same remarks may be applied to the case of craniotomy, for this is rather an argument not against craniotomy, but against unwarrantable delay in the performance of the operation. But is danger to the mother and the infant decreased by the frequent practice of turning? Not necessarily so, even should it effect an abridgment of the labor. For although it is true that beyond a certain limit as to time, labor which has become what we call prolonged is dangerous to both mother and child, yet within this limited time which we without fear permit, because we look on it as normal, it is *not* true that precipitate labor is safer than one of average length. The fact that the labor can be terminated more speedily when version has been determined on than if the forceps were to be used "cuts both ways;" for whilst it is true that the time required is shorter, it is no less true that there is vastly greater need for hurry in the case of version than in the case of the forceps. For whereas five or six minutes may be taken as the maximum time the operation must last from the instant the funis has passed the os uteri, if the child is to be saved, the head can in the grasp of the forceps, as has been pointed out by Martin, be moulded for one hour at least without the slightest danger to the child. The relative effect of these operations on the mother I shall consider later on.

(To be Continued.)

386. ERGOT, in the Third Stage of Labor, and its Influence in Preventing Septicæmia.—Dr. V. M. REICHARD in *Phila. Med. Times*.—The text-books, as a rule, say that ergot may be given in labor previous to the birth of the child, though all advise certain precautions in its use. It were better, however, to adopt the rule never to give ergot in the second stage of labor. The numerous and grave complications which may arise in any case at any moment forbid the employment of a drug which may carry out of the accoucheur's hands the power to control the action of the womb. A man may—and such has been the case—use ergot regularly for quite a number of years with no serious results, and at last rupture a womb. Such a result may occur in any case; but how much more readily when the womb has been ergotized! In a recent case of which the writer knows, the woman had borne quite a number of children with no particular trouble. Ergot was given, and as a result the woman is dead and the child unborn! Such is the record.

By the pressure of the almost tetanically contracting uterus the child may be still-born and all efforts at resuscitation fail. Only a dead baby! and yet Mrs. Reybold was submitted to the perils of Cæsarean section two successive times to save the lives of babes unborn. To deliver a woman who is subject to uterine inertia is sufficiently easy without ergot. Its use in the second stage of labor should be abandoned entirely. Its risks, as compared with those of other procedures, are too great.

In the third stage, however, and in the post-placental period, it is an agent of the greatest utility. Those authors who are most chary about giving ergot advise its use when the head is about passing the vulva. This, however, may cause trouble. With an adherent placenta—and there are some men who find these cases are not extremely rare—the drug may cause such severe contraction as to interfere seriously with the operator or indeed imprison the placenta within the uterine cavity. The safest rule by far is not to give ergot until the placenta is in the vagina or escaping from the mouth of the womb. Given at this time and in full and sustained doses, too much cannot be said in its favor. It lessens or prevents after-pains; it hastens involution to a marked degree; and it reduces to a minimum the dangers of septic absorption.

In this latter direction I conceive lies its greatest usefulness. The situations most favorable for the absorption of septic organisms are the denuded placental site and the occluding thrombi in the mouths of the uterine sinuses. By securing firm contraction or hypercontraction both these dangers are met. The uterine cavity being emptied thoroughly and kept almost entirely in a state of tonic contraction, the discharges are carried out at once, the placental site is reduced to the smallest size, and the thrombi have the serum forced out, thus diminishing their value as propagating media for septic organisms.

The facts bear out these assertions. I have found that women who are thus treated with ergot do better than those who are not. The

temperature scarcely rises above the normal, and they are in better condition at the end of the lying-in period.

In a recent case in which the placenta was remarkably adherent, all judicious efforts failed to remove the entire placenta. The injury to the uterine surface by prolonging further efforts at removal was judged to be greater than the danger of leaving behind a piece of placenta. The woman was given a drachm of ergot every four hours. In twenty-four hours the lochia were very offensive, and on the third day a goodly-sized piece of placenta was discharged in a putrid state. At no time was the woman's condition at all serious. I do not wish to be understood as saying that every effort should not be made to remove the entire placenta. But what I do say is that ergot will so seal the uterine absorbing surfaces that a putrid piece of placenta may be retained and no bad results follow. Whether it be only a coincidence or the effect of a cause, opinions may differ; but I am sure that since giving ergot to every woman immediately after the expulsion of the placenta my cases do a great deal better than before I commenced to give it.

To sum up: ergot should not be given until the placenta is under entire control; then should be given several doses in quick succession until the womb is well contracted and low down; and after this a drachm every four hours. The rapidly-repeated doses may cause vomiting, but I have never seen any bad results follow this. On the other hand, the womb seems to contract more forcibly.

367. THIRD Stage of Labor with Special Reference to Retained Placenta.—DR. H. C. HENDRICK in *Phila. Med. Times*.—It is often the case that the skill of the physician is more severely taxed in the third than in the second stage of labor. In the treatment of the subject, this paper is not designed for an elaborate article, but only to direct attention to a few points in the management of the third stage of labor which seem to the writer to be of most practical importance, and interesting to the physician because common practice compels a degree of expertness on the part of every general practitioner. Guided by the books and journals, there is yet a wide difference in procedures among accoucheurs: for instance, Churchill tells us at the close of the second stage of labor, "the child rolled in flannel and removed, we may proceed to apply the binder, . . . when the patient may be allowed to rest awhile, if there be no flooding, after which, *when the uterus contracts*, gentle traction should be made by the funis to ascertain if the placenta be detached; if so, it may be removed by traction-pressure upon the uterus, etc. After the placenta has been removed, the binder may be tightened, if necessary."

Cazeaux (seventh French, fifth American edition) says, after entire separation of the after-birth, make moderate traction with a view of extracting it. As soon as any resistance is felt, pass two fingers of the other hand along the upper surface of the cord to the os uteri, directing traction at first at an angle with the vagina in line with the

entrance of upper strait; . . . when, however, tractions have no effect, all efforts should be suspended for the time being; and he adds, quoting Merriman, this seems all that is right to do for a full hour after the child is born, . . . and, generally speaking, we can have but little expectation that the placenta will be expelled by the natural powers after it has been retained more than an hour, and we can consider ourselves justified in interference to extract it.

Playfair makes the same quotation from Churchill concerning the binder as above for the purpose, and we think rightly, of condemning the practice; also he condemns the means of *traction by the cord*, and proceeds to advocate the delivery of the placenta alone by *expression*, or the "Credé method." Expression of the placenta from the uterus is by a *vis a tergo*, and not by a *vis a fronte*; when once the *knack* is learned there is little difficulty to be experienced. He says for this purpose (the patient on the left side) the fundus should be grasped in the hollow of the left hand, the ulnar edge being well pressed down behind the fundus; and *when the uterus is felt to harden*, strong and firm pressure should be made downward in the axis of the brim of the pelvis; . . . that by this mode the uterine surface of the placenta is generally expelled first, the cord being within the membranes. He adds that in nineteen cases out of twenty, and *without touching the cord*, the bugbear of retained placenta will cease to be a source of dread. I should also have quoted to his credit continued grasp of the uterus ten minutes after expulsion of placenta.

Leishman is a general advocate also of the Credé method, but admits, at times the desirability of combined traction by the cord.

Perhaps these four authors sufficiently represent the ordinary differences in procedure as taught and practiced without further quotations.

1st. Churchill, in the application of the binder before any attempt to deliver the placenta. He advocates traction after an uncertain period of repose subsequent to the bandaging and *pressure* upon the uterus (which must be an exceedingly uncertain factor while the uterine globe could hardly be distinguished under the binder, and certainly could not be *grasped*,—a practice of which, it is hoped, none of us has any experience.)

2d. Delivery by traction alone, as recommended by Cazeaux.

3d. The Credé method as described by Playfair,—by expression alone.

4th. Expression reinforced, when necessary, by traction, as by Leishman.

Cazeaux and Playfair represent the extremes in modes of rendering aid.

There is tolerable agreement with those authors as to *waiting* for active uterine contractions to be resumed after close of the second stage before interfering, but with suggestions that after sufficient time has elapsed to endeavor to excite uterine contractions by friction; yet what may be sufficient time is left quite uncertain,

while that delivery of placenta is usually effected in from fifteen to twenty minutes to an hour and a half. *Casual* writers vary very much in their ideas as to proper time of waiting, many of late advocating efforts towards immediate delivery.

As stated, when assistance is rendered, Cazeaux and Playfair represent opposite extremes of modes of action. The adage that the "truth usually lies between the two extremes" is not far amiss here.

We wish to give our experience, which has been that of the ordinary village and country practitioner, with an obstetric business equal to the average for one-third of a century; and during the past one-quarter of a century we do not recall a case, in our own practice, of the third stage of labor, at full term, exceeding twenty minutes,—unless the time was necessarily consumed in some extra care for the child,—and *never* a case of fatal hæmorrhage: generally the time occupied from birth of the child to delivery of the placenta has been within ten minutes.

Our custom has been to proceed, without essential delay, by expression, with gentle, guiding traction. Quoting again Playfair, in his advocacy of the Credé method,—“that in nineteen cases out of twenty, *without touching the cord*, the bugbear of retained placenta will cease to be a source of dread.”

We will add that the same will be true in ninety-nine cases out of the one hundred—and many times better still—by what we may call the Credé and Cazeaux methods combined, which we have essentially practiced for many years. We will give the procedure in detail. We prefer to have the placental end of the cut cord ligated, to retain all the blood, and which may aid in the separation of the placenta. Immediately after tying and severing the cord and due attention to the child, with the woman lying upon her back, wind the cord about one hand and third and fourth fingers,—or fingers alone, if the cord be very short,—until the hand is brought in close contact with the vulva; the first and second fingers are carried along the upper surface of the cord to the placenta or os uteri, thereby one hand serving all the purposes of two, as illustrated in the traction method of Cazeaux; the other hand over the uterine tumor, its ulnar side deflected, with the fingers carried as well back and around the uterus as possible, while the thumb and thenar eminence serve to antagonize and secure the most efficient possible and uniform grasp of the tumor.

By this time, usually, the womb is ready to respond; and when it responds the grasp is tightened, with a pressure bearing the uterus in the direction of the axis of the superior strait, meanwhile giving direction and slight traction by the cord. At the same time the *patient* is directed to “bear down,” or, what is better, to place the palm of her hand tightly over the mouth and blow against it with all her might, and with it is sure to come the straining effort; and here let it be said and emphasized that pressure by inflation of the lungs—forced inflation—is worth more as an adjuvant expulsive force than

all others combined. The leading feature of all, however, is the peculiar, expressive grasp of the uterine tumor, which perhaps cannot be fully told, but must be comprehended by the physician himself,—a sort of tactile sense that assures him he is aiding the uterus in its contraction and expulsion of its contents,—a sort of peristaltic squeeze, the position of hand aiding both in excitement and direct expulsion. Usually the work is completed with the first uterine pain, which is greatly encouraged and prolonged by the blowing efforts of the patient. Labor is over and the “bugbear of retention” gone by; but the grasp of the uterus, to prevent hæmorrhage, is *still maintained* without interruption, for some minutes,—longer or shorter, according to the tone of contraction; and the dose of ergot at this time is a source of safety. Generally, I would not rely upon it as an aid in the third stage of labor; nor do I give the full dose in the close of the second stage to secure contraction of the womb, as is the custom of some, unless measurably sure of completing the third stage ahead of its specific effect, lest it should bring on spasmodic contraction of the womb, which is one of the fruitful sources of retention of placenta.

One thing should have been mentioned, that is respecting the varied positions of the placenta assumed in the different modes of delivery. In the traction method the root of the cord and foetal surface appear first; by expression alone generally the maternal surface is expelled first; in natural or unaided expulsion it usually descends by one edge occupying less space in the os uteri and less room laterally in the vagina. The latter or natural position of the placenta in its descent is quite generally maintained, and nearly always when *well balanced* aid by expression and traction is combined. Its naturalness recommends it; its success is its advocate.

If with well-directed efforts, by whatever method, the after-birth is not delivered, when shall we call it retained placenta? and what shall be done? Authors seem to make the time from half an hour to an hour and a half. We believe the latter time long enough to wait. Our experience is confined only to a few cases when called in consultation when more than this time, by force of circumstances, had elapsed; and artificial delivery, either with or without the use of an anæsthetic, was proceeded with at once with successful terminations,—one of these a cross spasmodic contraction of the whole uterus.

We believe there is nothing gained by delay, as has been done for days and weeks, but much lost. The adhesions seldom diminish. The patient, until the secundines are delivered, cannot repose; she is in a constant state of anxiety; there can be no real advance in recovery. The physician must hold other practice in abeyance to this case; he is harassed by day and by night by an impending danger from hæmorrhage or septicæmia or both. There seems to be little prospect of gain by waiting. The uterus is in its nearest physiological condition at the time of the birth of the child; its inherent contractility of tissue is then alive to every exciting cause. If there be in-

ertia present, the necessary manipulations will excite and draw the forces of the system to the part and overcome it, while the longer the delay the more tolerant is the womb to the presence of a foreign body: so to speak, it accepts its partial relief by the birth of the child from over-distention with satisfaction, and rests itself, unwilling to be disturbed.

We do not intend to pursue the subject of procedures in retained placenta, at term, in this paper to any extent. You may criticise the writer without an extended experience for presenting it, which is just the reason (want of experience) why it is presented. If any one with an extended personal knowledge and practice in cases of retained placenta can point out a better way than to avoid having them, it will be interesting information.

But there is another class of cases of retained placenta, a class of which doubtless we all have had more experience and annoyance than desired, and which might more properly come under another title,—*treatment of abortion*,—which we choose to bring under consideration at this time. Unfortunately, the rules for securing the expulsion of the placenta at full term or period of viability do not come materially to our aid here.

It is known that in abortion prior to the close of the second month of gestation the foetus and secundines are usually expelled together, and if not, the latter are so small as ordinarily not to be a source of much danger even if not interfered with, but subsequent to that time until viability is a period causing the physician a deal of trouble. The placenta compared with the foetus is proportionally of large size and of close attachment to the uterus, and inclined to adhere, as naively expressed by one of our patrons in a retention case of his wife: "I tell you, doctor, the trouble is, the thing isn't ripe yet."

It is rather the rule than otherwise, at this period, that cases are watched and time given them, but both patient and physician are filled with anxiety. There are oft-recurring and dangerous hæmorrhages. There are bad odors, sometimes septicæmia, and always danger of it. Seldom is a case permitted to continue without some of these untoward features, while the treatment is apt to be confined to such efforts to obtain the placenta as can be achieved by one or two fingers, and ergot, which seldom succeeds in either bringing away the after-birth or materially checking hæmorrhage, and, so failing, further measures are confined to the use of deodorizers, antiseptics, and the tampon if compelled to it, until nature, seemingly disgusted with itself, if not with the doctor, rouses at last and expels the foul offender, or, failing, it passes away in sickening discharges, or possibly it is rarely absorbed.

The writer confesses these delays too much the habit of his own practice in earlier professional life, but of late years I rarely wait a quarter of a day, and often not an hour. Having of late years a business copartner, hence a colleague easily at hand as an aid, I now proceed at once to remove the placenta artificially. In doing so, ad-

minister an anæsthetic, carry the hand into the vagina, remove the placenta. The results have been satisfactory.

Gentlemen, the manner of a majority of these cases coming to us for aid is known too well. The result of criminal practices on the part of parents even in wedlock, or of unfortunate girls under instruction or by the hand of professed abortionists, with the advice that when in trouble call upon a good physician. We sometimes question the responsibility of the physician to respond to such cases, but often we are brought to the bedside unconscious of the nature of the case until the moment is imminent. Quicker than can the question arise the doctor's sense of duty to human life has decided his action. The question with us here is not what cases it is our duty to attend, but how to do our duty well.

In the résumé of our subject concerning the third stage of labor, we would recommend ordinarily (1) that efforts to deliver the placenta should be made within the first ten minutes following the close of the second stage, believing the vigorous uterus more responsive then than at a later period.

2d. That the application of the binder prior to the delivery of the placenta, except in inertia of the womb, and delay when the accoucheur could not remain by the side of his patient, is not only useless, but a hindrance.

3d. That neither mode, of traction alone or expression alone, is the most efficient or desirable means of aiding in the delivery of the after-birth, but if either mode alone is to be adhered to, that of expression has the advantage over traction in being the more efficient in completing this stage of labor, and also in preventing hæmorrhage.

4th. That the best method known is the proper combination of the two methods (traction and compression) combined, keeping in remembrance that there is a vast difference between pressing the uterus and compressing or grasping.

5th. Never neglect maintaining the firm grasp of the uterus for a period of some minutes following the descent of the placenta.

6th. That the best treatment of retained placenta is to not have it, —but, having it, to proceed with artificial delivery as soon as practicable; better use the most efficient means that can be deemed judicious than to leave the patient with the greater risks of hæmorrhage, and a subject of adynamic and ataxic fever.

7th. The best treatment of retained placenta in abortion is to "go for it" as promptly as possible.

368. PERINEUM, Preservation of the, During the Expulsion of the Fœtal Head.—Translated from an Article by Doleris, in the *Nouvelles Archives d'Obstetrique et de Gynecologie*. By VIRGIL O. HARDON, M. D.—There exist many methods proposed from time to time for preventing the rupture of the vulvo-vaginal orifice. All play a more or less useful part in the general management, looking toward the protection of the soft parts. But I am satisfied that no one of them by itself is complete or efficacious.

1. There is one which is radically bad, and naturally it is the one most frequently employed, being still recommended and taught. It consists of forcibly applying the palm of the hand at each expulsive effort flat upon the perineum. This is called "supporting the perineum." That expression should be expunged from obstetrical language, for then perhaps the last remnant of this disastrous method would disappear also. Its most frequent result is that the perineum is torn from top to bottom between the hand which presses and the head which forcibly advances. If this accident does not happen it is because of the extreme suppleness of the tissues, or else because the pressure of the hand upon the head prevents its rapid advance, and so is of benefit in an unexceptional and unintended way.

2. A somewhat better method, taught by some of the pupils of Tarnier after the English accoucheur, Playfair, consists in drawing toward the posterior commissure of the vulva as much as possible of the integument. This is accomplished by placing the palm of the hand upon the perineum, the radial border encircling the lower half of the vulva, the thumb being placed just inside of the tuber ischii of one side and the index and middle fingers just inside that of the other. At each uterine contraction by approximating the thumb and fingers the soft tissues are forcibly drawn toward the fourchette. The object of this procedure is to increase the amount of tissue at the perineum, and in that way to produce a relaxation. It is possible that this method may sometimes be successful in fat women with flabby and elastic skin, but it is a mistake to suppose that success will be the rule. I have often tried this method by itself with the view of determining its value, and I must say that I have no confidence in it. In many cases it is impracticable as well as useless, since the perineal integument is so tense that any folding of the skin is impossible, even in the intervals between the contractions.

3. Finally there is a third method, which consists in dividing the perineum to prevent its being torn. This is like jumping into the water to get out of the rain. It is sometimes spoken of as prophylactic incision or, in more strictly surgical language, episiotomy.

The most frequent laceration of the perineum is at the fourchette. In nine cases out of ten it commences in the mucous membrane of the vagina and extends thence to the skin. It is a laceration by propagation. When it is otherwise the laceration is either unilateral or bilateral and occupies the inner face of the lateral walls of the vagina and of the labia, its direction being parallel or slightly oblique to the axis of the vagina. The maximum of laceration is at the vaginal sphincter. This proves that the resistance is at the vaginal sphincter and that the incision should be made at that point, and not at the free muco-cutaneous border which encircles the head in its passage through the vulva.

What are the evil results of these various lacerations when occur-

ring spontaneously? It is a well-known fact that they differ materially according as the lesion is in the fourchette or in the vaginal walls.

Those of the walls cicatrize very readily, are very easily treated by topical applications, are very little exposed to infection and interfere very slightly with the resistance of the pelvic floor in its *role* of supporting the pelvic organs. Those of the fourchette are often retarded in their cicatrization by the contact of the lochia and their situation at the angle of the vulva. Topical applications are not easily kept in contact with them. They are constantly exposed to the direct absorption of septic products, and in case of non-union and healing by granulation, the vulva is more or less enlarged, and the supporting power of the perineum lessened.

Hence, if prophylactic incision is practiced, it may be done intelligently if not judiciously. It is the vulvo-vaginal sphincter or the muscular orifice of the vagina which resists, and not the vulvar border. It is therefore necessary that a probe-pointed bistoury should be carried flatwise up to the sphincter in the interval between two contractions. (The sphincter is from three-quarters of an inch to an inch and a quarter from the free border of the vulva.) It is at that point that the incision should be made, and it should embrace the whole thickness of the sphincter. It may thence be carried down to the free border if necessary.

But far more important and effectual are those methods which are applied to the foetal head, the principal one of which consists in giving the head time enough to make a passage for itself, and in so directing the movement of the foetus that the maximum of force shall be directed toward the point of greatest resistance, and the weaker parts shall be protected.

To accomplish these purposes, two objects must be kept in view.

1. To modify the force and rapidity of the expulsive contractions of the womb. The object of this is to prevent rupture of the mucous membrane at the vaginal sphincter.
2. To disengage the foetal head without the aid of the voluntary or involuntary efforts of the parturient woman by an artificial means employed in the interval between two of the final expulsive efforts. The object of this is to prevent rupture of the fourchette—that is to say, the muco-cutaneous angle of the perineum.

The first object, the slow and gradual progression of the head, which is equivalent to the slow and gradual distention of the vulvo-vaginal orifice, is easily accomplished by counter-pressure exerted lightly or forcibly, according to circumstances, by the left hand of the accoucheur upon the occipital extremity of the head during an expulsive pain. During the whole period of expulsion it is necessary to push back the head if it is too rapidly advanced by the uterine contractions. In order that the perineum may remain intact, this contest between the accoucheur and the uterine efforts should last for a half or three-quarters of an hour at least. I always protest against the practice of exhorting the woman to bear down forcibly as soon as the head

appears. It is neither necessary nor useful. It is positively injurious, since it renders her more liable to a laceration. Its only advantage is to save time for the physician and his assistants.

But when must one cease to push back and restrain the head? I think the pressure should not cease until the time arrives for the employment of the second procedure. I refer to artificial extraction by the hands and fingers, and to rectal expression especially.

We are indebted for the method of rectal expression to Olshausen and Ahlfeld. It consists in introducing two fingers into the rectum of the woman toward the end of a pain and carrying them up to the mouth or under the chin of the child. By well-directed pressure downward and forward, the extension of the head may be accomplished so that it will escape from under the pubic arch. This manoeuvre is very easy of accomplishment, for the anus is widely dilated and is free from fecal matter. It is not painful. I have never heard women complain much during the process. Care must be taken that the extension should be slowly accomplished; otherwise an injury to the fourchette or the lateral walls of the vagina may result. For this reason it is necessary to combine traction and pressure by means of the fingers in the rectum.

In regard to the time for the employment of this procedure, two points are to be borne in mind:

1. It must be undertaken only in the interval between two contractions. The pain must be on the wane or entirely ceased. For the greater security it is best to direct the woman to abstain from bearing down. Up to this time voluntary efforts have been necessary. The accoucheur has regulated and encouraged them. But at this point they become useless and even dangerous.

2. In order to judge when the propitious moment has arrived, it is necessary to wait for certain conditions to be fulfilled. After a careful study of the subject in primiparæ, I am satisfied that when the posterior angle of the anterior fontanelle is plainly visible at the commissure, it is time to employ rectal expression and to accomplish artificial delivery by the combined use of two hands. At that moment the largest circumference of the head is engaged or about to be engaged; it may have even passed the point of resistance; this depends upon the conformation of the head.

Thus performed, rectal expression, which is my habitual practice in primiparæ with small vulvæ, has given excellent results in my hands. No other argument is needed to recommend it. If figures were necessary, I could furnish comparative statistics of the three following methods: Spontaneous disengagement, various methods of supporting the perineum and rectal expression, to prove that the last method is the one in which there is least liability to rupture of the perineum.

I conclude then that the best method of protecting the perineum is the following:

1. To prevent a deep rupture from commencing at the vaginal sphincter during the too rapid progress of the head at that point,

regulate and control the passage of the head through this part of the canal, which in primiparæ should occupy from one-half to three-quarters of an hour. The distention of the parts should be gradual, and the tearing of the mucous membrane should be avoided. To secure these objects, control the escape of the head by pressing it back—not in a hap-hazard way, but at each new uterine contraction.

2. To prevent a rupture of the fourchette from occurring alone, or as the result of a slight lesion of the mucous membrane in a part of the vagina concealed from the eye of the physician, wait until the largest circumference of the head is engaged, and when a half of the anterior fontanelle has emerged, execute the manœuvre of rectal expression.

3. If, through fear or through haste, a liberative incision is decided upon, wait as long as possible, and then make it laterally and through the vaginal sphincter by means of a probe-pointed bistoury introduced flatwise, at the end of a contraction, while the part is still tense.

369. CRANIOTOMY.—ED. in *Can. Lancet*.—Craniotomy is one of the oldest of surgical operations, and while it is, under any circumstances, exceedingly unpleasant, it becomes repulsive and horrible in the extreme when performed on the living child. At one time it was so common in Great Britain as to become a serious reproach to British midwifery. At the same period in France, chiefly through the influence of the Church, it was bitterly denounced, and scarcely ever performed.

At the recent meeting of the British Medical Association, Dr. Meadows, in his opening address before the section of obstetric medicine, expressed the hope that a new law would be promulgated which would put a stop to this method of slaying innocent life. Among the interesting papers presented was one by Robert Barnes on "The Alternatives to Craniotomy." In the discussion that followed the general feeling was in favor of some of the alternatives. It was shown that deformities of the pelvis which require craniotomy might be prevented to a great extent by hygienic and anti-syphilitic precautions. After hygiene we have the induction of labor which in some cases, is very satisfactory after the viability of the child, being frequently facilitated by turning. When the child has reached full term in a pelvis so much contracted as to prevent delivery, the alternative to craniotomy is some form of abdominal section.

It is generally, though not universally, conceded in this country that the interests of the mother should be considered rather than those of the unborn child. With a case before us, it becomes a serious question to decide whether Cæsarean section or any of its sister operations is as safe as embryotomy. It is said that for one hundred years no successful Cæsarean section was performed in the Vienna or Paris hospitals. With such a discouraging record it is hardly surprising that British obstetricians looked on it with disfavor. The Cæsarean operation was, however, too often deferred until the cases had become

hopeless, and it has been shown by Harris that the rate of mortality under favorable circumstances is comparatively low—*i.e.*, about 25 per cent.

The methods of operating have lately been so much improved by Sanger and others that it has become far less formidable. Sanger operates early to avoid the effects of shock; prevents hæmorrhage, chiefly by the elastic ligature enclosing the cervix, and avoids other dangers by his method of closing the uterine wound. His plan is to dissect the peritoneum free from the muscular edges; cut away a slice of this tissue on each side (although this is said by some to be unnecessary); turn in the free edges of the peritoneum; unite the surfaces by deep and superficial sutures in such a way as to close effectually the wound and, at the same time, bring two layers of peritoneum in contact.

In Porro's modification the uterus, after being emptied, is amputated at the cervix. In Thomas' modification, called gastro-elytomy, the os is fully dilated; an incision is made above and parallel to Poupart's ligament; the peritoneum is pushed up, an opening is made into the vagina, the cervix is drawn up through this opening, and the child is extracted by the hand.

In considering the risks attending these operations it must be remembered that craniotomy itself is attended with grave danger to the mother. Lawson Tait strongly favors Porro's operation. Other surgeons have their choice among the three, and it is somewhat difficult to settle their rival claims to superiority. Lusk, however, points out that they are not rival methods, but clearly fulfil different indications. He chooses the Cæsarean section for favorable cases taken early; Porro's for cases in which the uterus is exhausted, and laparo-elytomy where the head is at the brim, with the uterus retracted above it.

Upon the whole, we think that the prospects for conservative surgery in such cases—in the interests of both mother and child—were never brighter than at present. May we not, therefore, hope that, with the wonderful advancement which is now being made in this department of surgery, it will soon be demonstrated beyond a doubt that Cæsarean section, or some of its modifications, is quite as safe—if not safer—in all cases than craniotomy, and that this latter murderous method of destroying the lives of innocent babies may be soon known as one of the things of the past.

370. POSTPARTUM Hæmorrhage, Acute. Salt Infusion.—Ed. in the *Amer. Lancet*.—Dr. Robert Barnes says that it "ought to be an accepted aphorism in medicine, that no one should be permitted to die of hæmorrhage." This maxim sounds well, but like many another, it is easier preached than practiced. Leaving out of the question those cases of hæmorrhage, ante or post partum, which prove fatal before aid can be rendered, there are a certain number of cases with which the physician, do what he may, is wholly unable to cope, and in spite of all his efforts, has to submit to the trying and painful ordeal of seeing his patient's life slowly ebb away.

Hæmorrhages which apparently will prove fatal, are often controlled by the simplest means, while others, seemingly slight, prove intractable under all methods, and the patient, pale, almost pulseless, exsanguinated, lies gasping at the point of death. Still, there is one forlorn hope left—transfusion. The disastrous results, or rather the negative results, which have so often followed this operation, are due largely to the tardiness with which it is accepted and put in practice by the accoucheur. The transfusion of blood, too, either mediate or immediate, requires a certain apparatus and a victim, which are rarely, if ever, at hand in the armamentarium of the practitioner, and the delay in procuring such after the procedure has been determined on, is the delay of death.

When the infusion of milk was first introduced, it was supposed that this would supply, to a great extent, the materials necessary for the prompt nutrition of the tissues, without the inconvenience of blood transfusion, but this proved a delusion. Fresh cow's-milk is not always at hand; neither is it at all times possible to find a goat which can be conveyed to the sick chamber. Besides, the injection of milk into the veins has proved to be an operation not devoid of danger, for patients have died of embolism produced by the oil globules of the milk. The last, and at the same time the safest and most easily effected method, is the infusion of warm salt solution. This can be done with so little inconvenience, and withal so promptly, that it lies within the reach of every practitioner engaged in midwifery.

A case, admirably illustrating the *modus operandi* of this process, was recently reported to the Obstetrical Society of Boston. The hæmorrhage in this instance was due to ante-partum separation of the placenta. The cervix uteri was rigid, resembling "the virgin cervix rather than that of a woman eight months pregnant." *Accouchement Forcé* was with difficulty accomplished. The hæmorrhage, which had been severe, continued, although the uterus contracted well after the delivery of the child. Different methods were tried to control the bleeding, which was finally checked by the repeated application of persulphate of iron to the cavum uteri. The condition of the patient was so alarming, that, in spite of auto-transfusions and stimulants, she began to toss and gasp for breath. Salt infusion was then tried, and thirty-six ounces of the solution injected into the right median cephalic vein. Within twenty minutes the effects were apparent. The patient regained color, remained quiet, became conscious, and could take stimulants by the mouth. A second hæmorrhage occurred one and a half hours after the first, but was finally controlled by the renewed application of iron to the cervix, and by packing the vagina. The condition of the patient was as before the infusion, and the operation was again repeated on the other arm. Thirty ounces of the salt solution were injected, with a result still favorable, but not so marked as in the first instance. Up to the date of reporting, the case had progressed slowly but surely towards recovery.

One curious point in the history of this case is that, although a considerable amount of salt was injected into the circulation, the amount of chlorides in the urine was at first diminished. "The apparatus used on this occasion," says Dr. F. B. Harrington, the reporter of the case, "was such as could be hastily adapted from the ordinary office instruments; a large needle from an aspirating set, with a piece of drainage tube and a small glass funnel." The salt solution used was that recommended by Mikulicz, consisting of:

Sod. chloride..... 6.0 = ℥ iss.
 Sod. bicarb..... 1.0 = grs. xv.
 Distilled water.... 100.6.0 = Oii.

A solution which is undoubtedly equally good, is recommended by Little. This is composed of:

Sod. chloride..... grs. x.
 Pot. chloride..... grs. vi.
 Sod. phosphate..... grs. iii.
 Sod. carbonate..... grs. xx.
 Distilled water..... ℥ xx.

Either of these solutions, when used, should be warmed to 100° F. Our own experience, limited to one case, where the operation was undertaken when the patient was *exitus letalis*, has not proved as satisfactory as the one just referred to. But there can be no doubt that, used in time, the salt infusion is of great service in hæmorrhage, in supplying the heart with fluid to contract upon, and thus keeping that organ in action until other remedies, including nutriment, have time to take effect. The whole procedure is so simple, too, that no case of ante, or post partum hæmorrhage should be given over as hopeless until infusion has been tried.

371. PUERPERAL Fever, Antipyrin in.—DR. J. B. WHITE in the *Phila. Med. News* gives four typical cases from his note-book, in which he has used antipyrin with success, and has had the same satisfactory results from the use of the drug in fevers other than puerperal. These results lead him to think that antipyrin is among the most safe and useful antipyretic remedies in all fevers. He does not think that the remedy exerts any direct influence upon the uterus by which the lochial discharge is restored when suppressed, but it appears that this good result is effected secondarily through the reduction of the high temperature, which is always present in these cases. The writer acknowledges the difficulty of determining just how the antipyrin acts, but thinks it exercises a bradycrote influence upon the circulatory system. He had witnessed none of the ill effects attributed to the use of the drug, although he had frequently prescribed it, and thinks that antipyrin should be given alone, and not combined with other remedies. His dose is from 15 to 20 grains, repeated in one, two, or three hours, *pro re nata*. Used in this way, the drug appears

to be perfectly safe. The author agrees with Dr. A. A. Smith, that antipyrin is the most useful and safest antipyretic yet discovered if used in not too large doses, and if in connection with its use cardiac stimulants be given when there is any suspicion of cardiac enfeeblement.

372. PUERPERAL Disease, The Relation of Gonorrhœal Infection to.—Extract from *Centralblatt f. Gynäkologie*.—Sänger, in his communication to the German Gynecological Society, agrees with Nöeggerath as to the frequency of gonorrhœal infection. In order that the diagnosis may be confirmed, there must be a clear history in regard to the man or the woman, or ophthalmia of a child—disease of the urethra (vagina), and the vulvo-vaginal glands—especially the latter.

In his cases, Sänger did not regularly examine for the gonococcus, as its presence is inconstant, and it is not yet possible to differentiate it from pseudo-gonococcus.

In 1930 gynecological cases, in private and polyclinic practice, Sänger found 230 cases, or twelve per cent., due to gonorrhœal infection, and 161 further cases, 28, or 18 per cent. In more than half of the cases the proof was indisputable.

Among 389 pregnant women, 100 had a purulent discharge—twenty-six per cent. (Oppenheimer gives twenty-seven per cent. for Heidelberg), and 40 children had blenorrhœa.

It is noticeable that the gonorrhœal infection does not lead to puerperal infection. Those patients affected with gonorrhœa appear apparently in the same condition as those not affected, but very often during the puerperium a severe gonorrhœal inflammation is set up, which is frequently mistaken for a puerperal disease. Angus Macdonald has pointed out that the gonorrhœal infection of child-bed may give rise to serious, and even fatal, results. In some of these cases the termination may be due to septic infection.

The writer referred to a case of gonorrhœal infection appearing during the third week after labor, where there was parametritis on the left side of the uterus, and pelvic peritonitis, with exudation into Douglas' cul de sac, on the right side. The attending physician had diagnosed puerperal infection.

A pyosalpinx was supposed to be present on the right side—this was afterwards confirmed by operation. It is the tubes affected with gonorrhœal inflammation that give rise to pelvic peritonitis and exudations during child-bed. These cases run a milder course than the septic inflammation, which is nearly always fatal.

Gonorrhœal exudations run a course, but appear late in child-bed. In cases of women who have borne children, where recent or old perimetritic exudations are found together with diseased uterine adnexa, the conditions nearly always take their origin from a gonorrhœal infection.

It affects women whose tubes were diseased before and during pregnancy, or those who have unclean connection soon after an abor-

tion or labor. In these cases especially, a pelvic peritonitic inflammation with disease of the tube is the result.

The reason that the disease appears so late is, perhaps, because the gonococci are washed away, or menstruation sets in, etc. Säger thinks that the gonococci work only on the surface. Gonorrhœal infection appears to be almost harmless during the early days of child-bed. But those who have suffered from the more severe forms of gonorrhœa, are witness that after three to seven weeks they are attacked suddenly with the above conditions, which have no reference to the puerperin. In this way gonorrhœa is easily differentiated from septic infection.

373. OSTIUM Vaginæ, Congenital Absence of the, and Delivery by the Anus.—Dr. GEORGE S. SYKES, of Galveston, was called to attend Mrs. H. T., who was in labor. She was thirty-five years old, and bore every sign of perfect physical development. The mid-wife said she had been in labor since the preceding mid-day. The bag of waters had been ruptured early in labor, and the patient was very much prostrated by her protracted but inefficient efforts to expel the foetus. Examination revealed entire absence of the vaginal orifice, and the finger, passed along the perineum, sunk into the distended anus, and encountered the foetal head just within the opening. The anus was dilated to about the diameter of three inches.

The foetal head was found within the rectum, arrested at the distended and resisting anus. A clammy skin, sighing respiration, rapid, feeble pulse, told the story of strength wasted by a fruitless labor. Uterine inertia; the anus, though considerably dilated, was insufficiently so to admit the passage of the head, and was rigid and unyielding. The indications were too clear to admit of a doubt as to the treatment. Chloroform was administered, a Simpson's obstetrical forceps applied with comparatively little difficulty, and by moderate effort the head was promptly delivered. The shoulders and trunk were brought into the world by a *vis a tergo*, exerted by squeezing and downward pressure on the uterus through the abdominal parietes. The placenta was speedily expelled by expression. There was no apparent laceration of the anal sphincters. There was no unusual hæmorrhage at the time of the accouchement, nor was there subsequent oozing. Firm tonic contraction of the uterus quickly followed a dose of ergot. The anus regained its normal characteristics within a few hours.

Five months and sixteen days after her accouchement, Dr. Payne examined the case thoroughly, and found complete absence of the ostium vaginæ. All the parts within the vulva presented the characteristics of virginity—the clitoris, normally developed and situated; the vestibule and posterior commissure bore no signs of having been stretched, distorted or lacerated by childbirth; the urethra was in its proper place; the nymphæ and labia majora were in every respect natural in their virgin symmetry of outline. Two fingers were read-

ily introduced into the rectum and passed upward along the anterior rectal wall for a distance of about two inches, when it was clearly appreciable that the surface gradually sloped forward and upward, and merged into the anterior vaginal wall, which at this point was natural in its anatomical relations. From a half to an inch below the os uteri could be distinctly felt the free edge of a membranous curtain which represented the upper third of the recto-vaginal septum. There was nothing abnormal either in the size or position of the uterus, or in its relation to the vagina. Examination with the speculum fully confirmed the revelation of the digital exploration. The most painstaking investigation failed to detect the slightest trace of cicatricial tissue. The conclusion was that the malformation was congenital.

This woman has borne three children, all at full term, and well developed, but dead. The cause of death seemed to lie in the early drainage of the amniotic fluid and the protracted labor. Nothing noteworthy occurred during the day of the accouchement, except continuance beyond ordinary limit, and the exhaustion which, as a natural consequence, ensued. Her labors had lasted, she said, about two days, but had not in any case been followed by fever, pain, abnormal discharge, or other evidences of inflammatory action. Her recoveries had been uniformly short, sitting up on the sixth day, and resuming her ordinary duties at the end of the second week. Menstruation has always been regular (except during pregnancy) and painless. Sexual desire and its gratification during coitus were in every respect satisfactory. She had never been made aware, either by the exit of the menstrual flux, the method of sexual intercourse, or even the strange manner of her accouchement, that she was different from other women. Her husband, after being closely questioned, asserted most positively that he never entertained the faintest suspicion that there was anything the matter with his wife out of the usual order of things.—*Med. News.*

374. WOMB and Ovaries, Absence of.—A rare departure from the normal uterine development was observed recently, by Dr. J. McF. Gaston, in the person of a colored woman about thirty-five years of age. Within the vulva there was a *cul-de-sac*, which might have received an ordinary hen's egg, without any opening above, and having a density and elasticity corresponding to the vaginal wall. Upon a bimanual examination, neither womb nor ovaries were found either by himself or two colleagues who examined the case with care. The small intestines seemed to rest upon the superior wall, and the descent into the vaginal outlet caused the woman to seek advice and led to this discovery. She supposed that menstruation had been prevented by bathing in cold water when it should have appeared, but there was no subsequent discharge, or indication of a tendency to it at any period since. The mammary development and the external genital organs are normal, and the act of copulation has been attended with the usual orgasm, according to her statement.—*Phys. and Surg.*

375. VERSION and Extraction, the Relation of, in Point of Time.—Winter has analyzed the material of the Royal University Clinic in Berlin from 1876 to 1884, and collected 310 cases of simple, uncomplicated, transverse positions of full-term living children; from an examination of this material he has come to the following conclusions:

1. The teaching that version and extraction should not be performed in immediate succession, arose from the supposition that the footling case produced artificially by version has the same prognosis as the same presentation occurring naturally.

2. The earlier and generally adopted practice of performing version as soon as possible after the escape of the liquor amnii rests on the fear of the intra-uterine death of the foetus, and especially of the increased difficulty of version after longer waiting.

3. Foetal death does not occur alone from the premature escape of the liquor amnii, but also when tympanitis uteri, unduly powerful pains, or tonic uterine contractions complicate the case.

4. Version cannot be rendered difficult by waiting until the dilatation of the os, for the dangerous thinning of the lower uterine segment does not occur until the expulsive stage; nor, again, does the clonic uterine contraction cause trouble in turning. Tonic uterine contraction, however produced, is a pathological condition, which is always to be avoided.

5. In normal cases children bear version and immediate extraction with safety.

6. Waiting after version before proceeding to extraction is very dangerous to the child, which often dies in utero, or is saved by speedy extraction.

7. The causes of foetal deaths are injuries to the cord during the version, separation of the placenta, and entrance of air into the uterus.

8. Whether the membranes are ruptured or unruptured, version should not be performed until the extraction can be immediately proceeded with.

9. Only a definite indication, such as placenta prævia, prolapse of the cord, beginning of infection, imminent asphyxia of the child, great thinning of the lower uterine segments, pure inertia uteri, demands early version, that is, before the dilatation of the cervix, and then for the most part in the interests of the mother.—*Boston Medical and Surgical Journal*.

376. PREMATURE LABOR, Induction of.—DR. WALTER COLES, in the *St. Louis Courier of Medicine*, concludes that the operation should be done:

1. In all cases where the pelvic deformity is slight (or with a diameter more than $2\frac{1}{2}$ or $3\frac{1}{4}$ inches), and the children have been found by experience to be large and vigorous at maturity.

2. In cases of first pregnancy, whenever there may be uncertainty as to the result of labor at term; especially where the pelvis is so con-

tracted that labor at term would probably be very difficult, or even impossible.

3. In cases of apparently normal pelvis, but where the child proves to be of extraordinary size.

4. In cases where the child dies *in utero* towards the latter end of successive pregnancies; providing the conditions producing the result are other than syphilitic, etc.

The methods recommended by the author for the induction of premature labor are: 1. The bougie. 2. Tents, or other dilators.

3. The douche.

377. PUERPERAL Diseases, General Treatment of.—KUNGE, in *Centralb. f. Gynäkologie*, finds that large doses of alcohol, baths, and full diet of nourishing food, in the treatment of the diseases of child-bed, yields in his hands the best results. The alcohol is the most important of these and must be used in large amounts. The baths should have a temperature of 22 to 24 degrees. This treatment assists the system in resisting the toxic effects of the absorbed matters. The pulse, as in typhus fever, is improved, the inspirations strengthened, and the appetite increased.

Of nine severe cases of septic infection treated in this way only one died.

Antipyretics, on the other hand, at most only bring down the fever, and destroy the appetite.

378. IODIDE of Potassium in Habitual Abortions.—The *Vratch* recommends prolonged and systematic internal administration of iodide of potassium to pregnant women disposed to habitual abortion. The proposal starts from the view that "habitual abortion is almost exclusively caused by syphilitic and inflammatory diseases of the maternal genital apparatus and ovum." The author recites the histories of two cases in which there were scarcely any syphilitic symptoms to be discovered, but which, on being put on the iodide, in five-grain doses three times a day, the patients went on to full term and the children were born living. In one of the cases the next pregnancy went on to full term, happily, without further treatment.

379. OBSTETRICAL Expedient.—DR. SHUSTOFF writes in *Russkaya Meditsina*, that he was called to see a woman who had been in labor five days. The pains had begun well, but had since ceased. Upon examination he saw something black protruding from the anus, and a little pulling brought to light a sausage over seventeen inches long and fourteen inches in circumference. The pains now began again, and the woman was soon delivered of a dead child. Dr. Shustoff found on inquiry that the sausage had been introduced on the recommendation of an old woman of the neighborhood in order to insure the birth of the child by the normal passage. This was probably the old wife's best attempt at supporting the perineum.

380. VAGINAL Tampon and Septicæmia.—BOISSAIRE relates in the *Annales de Gynéc.*, the following case: A woman 36 years old had been tamponed for profuse metrorrhagia, due to the presence of an uterine fibroid. Boissaire found the patient with septic peritonitis. The tampon had remained in the vagina for seven days, and was saturated with decomposing, stinking blood. The patient died on the same day.

Boissaire points out that although the tampon is often of the greatest service in controlling hæmorrhage, yet, if not properly managed, it may prove a source of great danger.

381. INTRA-UTERINE Erysipelas.—DR. C. STRATZ, in *Medical Record*, relates the case of a young woman pregnant for the first time, who suffered from several attacks of erysipelas, during the last of which labor set in. The child, which was alive and of normal weight, presented the epidermis of the whole body, but especially about the buttocks, so loose that it could be pulled off in strips. The mother had facial erysipelas, originating in a crack at the corner of the mouth; the genitals and other parts of the body were entirely free from the disease.

382. CLEANLINESS, For Securing Absolute.—Belaseff suggests in the *Centralbl. f. Gyn.*, an ingenious method of insuring absolute cleanliness of the hands before performing obstetrical operations. It consists in rendering visible all the nooks and crannies in which may lurk matter possibly or probably infectious. The blue pigment, aqua marina, is thoroughly rubbed up with vaseline, and the hands of the surgeon are carefully rubbed with the mixture until the grooves and crevices under and around the nails are thoroughly filled with it. Soap and water and a nailbrush are then made use of, and when all traces of the pigment are removed, it may be assumed that every trace of soil or morbid element has been removed with it.

Pædiatrics.

383. Gastro-Intestinal Affections of Children, the Influence of on Their Bodily Weight.—DR. N. MIYAMOTO communicates to the *Arch. f. Kinderheilkunde*, the results of his observations on the influence of gastro-intestinal troubles of children on their bodily weight. He examined for the purposes stated,—dyspepsia, ten cases; intestinal catarrh, fifteen cases; enteritis follicularis, eight cases; cholera infantum, six cases. His conclusions are thus formulated:

1. Dyspepsia invariably and manifestly decreases the weight, often causing a daily loss of thirty-three grammes (one ounce).
 2. Intestinal catarrh has very similar consequences.
 3. In enteritis the loss is far heavier, at times amounting to twenty ounces *pro die*.
 4. Cholera infantum causes, of all stated affections, the greatest reduction in weight in the shortest time, amounting occasionally to a loss of one-tenth of the entire weight within twenty four hours.
- These cases, of course, are all fatal.

384. WHOOPING-Cough, Carbolic Acid in the Treatment of. DR. A. D. MACDONALD, in *Brit. Med. Jour.*—On an extended trial, I found carbolic acid, in doses of one-fourth minim to a child of six months, one-half minim for a year, and one minim for two years and upwards to be the best remedy for whooping-cough. The whoop goes, the vomiting ceases, the paroxysms are modified in intensity and frequency. This result I believe to arise from a similar action to that of creasote on the motor fibres of the vagus of the stomach, and from a lowering of the vitality of specific germ of whooping-cough. This points to the antiseptic treatment of the zymotic diseases generally. These doses were large, and required to be watched. I now give smaller quantities. Glycerine is my solvent, but in greater proportion than in the glycerine of carbolic acid.

I mostly prescribe that mode of treatment still. In the majority of cases, no treatment is required beyond prevention of exposure to cold or windy weather. My own children have recently recovered from the disease under very little more than this careful expectancy. I may, somewhat irrelevantly, add that when strength and appetite fail, and much vomiting is present in the earlier period, I have found very great benefit to be derived from the administration of Liebig's liquid food daily.

385. PERICARDITIS after Whooping-Cough.—Dr. Racchi relates the case of an infant, aged four months, who was attacked with pertussis of very severe type, resisting the action of the various remedies used. Examination of the chest revealed the presence of capillary bronchitis, with emphysema of the anterior and inferior portions of the lung, but there were no signs of a cardiac affection. The child died, and at the autopsy were found the lesions of a well-marked sero-fibrinous pericarditis. In order to determine the relation of this affection to the whooping-cough, the author instituted a number of experiments upon rabbits. Microscopical examination revealed the presence of schizomycetes in the exudation in the larynx, minute bronchi and pericardium. These were in the shape of round poli-nucleated cells, and of rods, both endowed with power of motion. Some of the exudation was placed within the larynx of each of these animals, one receiving that from the larynx of the dead child, another that from the terminal bronchioles, and the third the pericardial fluid.

At the end of two or three days the animals began to cough, and in eight or ten days the cough assumed the character of pertussis. Then three other rabbits were similarly treated with the laryngeal exudation taken from those previously experimented on, and at the same time a healthy rabbit was placed in the cage of each one of those with pertussis. Each one of both these sets acquired the affection. An accidental occurrence also gave additional proof of the nature of the disease and of its contagiousness. Two children gained admittance to the room in which the rabbits were placed, and played with them for some time. In a few days each of these children began to have the characteristic cough of pertussis. Two of the rabbits died and two were killed; in one there was a well-marked pericarditis, in the others the pericardium was intensely hyperæmic. The author was thus led to look upon the pericarditis as a direct result of the whooping-cough, the schizomycetes being carried to the pericardium through the medium of the general circulation, and finding there a soil rendered favorable by the constant slight traumatism caused by the act of coughing.—*Med. Record*, from *Rivista Clinica Terapeutica*.

386. RHUS AROMATICA in the Treatment of Enuresis.—GEO. W. WILLEFORD' (*Med. Record*).—Trials with the above drug have been confined chiefly to the treatment of children. For a child ten years of age ten or fifteen drops of a reliable fluid extract is usually prescribed, three or four times a day, say a dose after each meal and at bedtime, to be given in a little glycerine and water, or other suitable excipient. No special nicety need be observed in regard to dosage, as it is regarded as harmless if given in any quantity which an intelligent physician would be likely to prescribe. *Rhus toxicodendron* is of no benefit in enuresis. The good effects of *rhus aromatica* are usually manifested quite promptly—frequently giving relief within the first two or three days. The doctor has also found the drug useful in the diarrhœa of both adults and children arising from intestinal indigestion.

387. HEADACHE in School Children.—PROFESSOR N. J. BYSTROFF has examined 7,478 boys and girls, in the St. Petersburg schools, during the last five years, and found headache in 868; that is, in 11.6 per cent. He states that the percentage of headache increases almost in a direct progression with the age of the children, as well as with the number of hours occupied by them for mental labor; thus, while headache occurred in only 5 per cent. of the children aged eight, it attacked from 28 to 40 per cent. of the pupils aged from fourteen to eighteen. The author argues that an essential cause of obstinate headache in school children is the excessive mental strain enforced by the present educational programme, which leaves out of consideration the peculiarities of the child's nature and the elementary principles of scientific hygiene. The overstrain brings about an increased irritability of the brain, and consecutive disturbances in the cerebral circulation.

Professor Bystroff emphatically insists on the imperative necessity for permanently admitting medical men to conferences of school-boards. Of palliative measures, he mentions methodical gymnastics, mild aperients in well-nourished children, steel in the anæmic, bromides, inhalation of oxygen, and, in severe cases, a temporary discontinuance of all studies.—*Brit. Med. Jour.*

388. ANTIPYRIN on the Temperature and Tissue Change in Children, The Influence of.—DR. JACUBOVITSCH, of the Children's Clinic, Academy of St. Petersburg, concludes a treatise on this subject as follows:

1. Antipyrin lowers the temperature as well in healthy as in sick children, but in the case of the former it sinks less than in the latter.

2. The force of the depression does not invariably depend upon the amount of the dose.

3. In children idiosyncrasy has an influence upon the fall of temperature outside of the mere largeness of dose, for very large doses sometimes have no effect.

4. Under the action of very large doses the temperature never continues at low figures longer than twenty hours.

5. The greatest depression is observed at midnight, and then the temperature gradually rises.

6. In the case of healthy children the temperature can not be so much depressed as in those suffering from fever.

7. Small children can, in most cases, bear large doses for from one to two days well. Vomiting is rare, collapse or convulsions are not observed, sweating is not constant.

8. Electro-muscular irritability rises with children from the use of the alkaloid, which can be explained by the experiments of Devenne upon frogs and puppies, through irritation of the musculo-motor centers.

9. In a small number of cases the daily quantity of urine is increased, and the specific gravity lowered; but in the majority of cases the quantity of urine is diminished by a half or more, is much concentrated, syrup-like, with increased specific gravity, the discharge of urine is notably hindered.

10. Forty-eight hours after the last dose the daily quantity of all urinary constituents surpasses that of the day before the exhibition of the alkaloid.

11. By means of chloride of iron and iodide of potassium antipyrin can be discovered in the urine not later than forty-eight hours after the last dose.

In conclusion, we must say that, notwithstanding the facts observed by us, the question of the use of antipyrin in fever can not be answered with a positive opinion. It seems to us, however, that there can remain no doubt that, notwithstanding its great antipyretic power, a long-continued exhibition of the medicine to the same patient would be impossible if our exhibit of the retention of oxidation products should be confirmed.—*American Practitioner and News.*

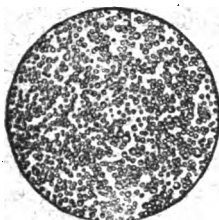
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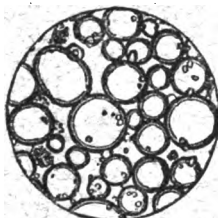
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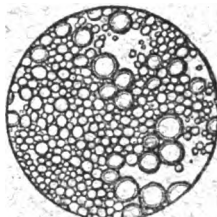
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